

FIG. 1A

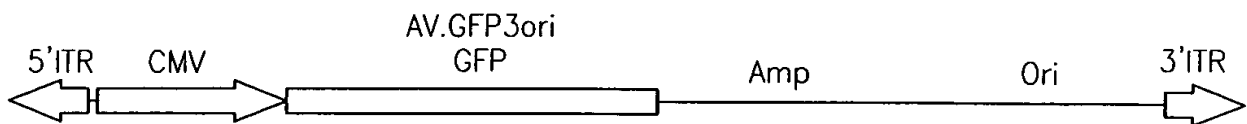


FIG. 1B

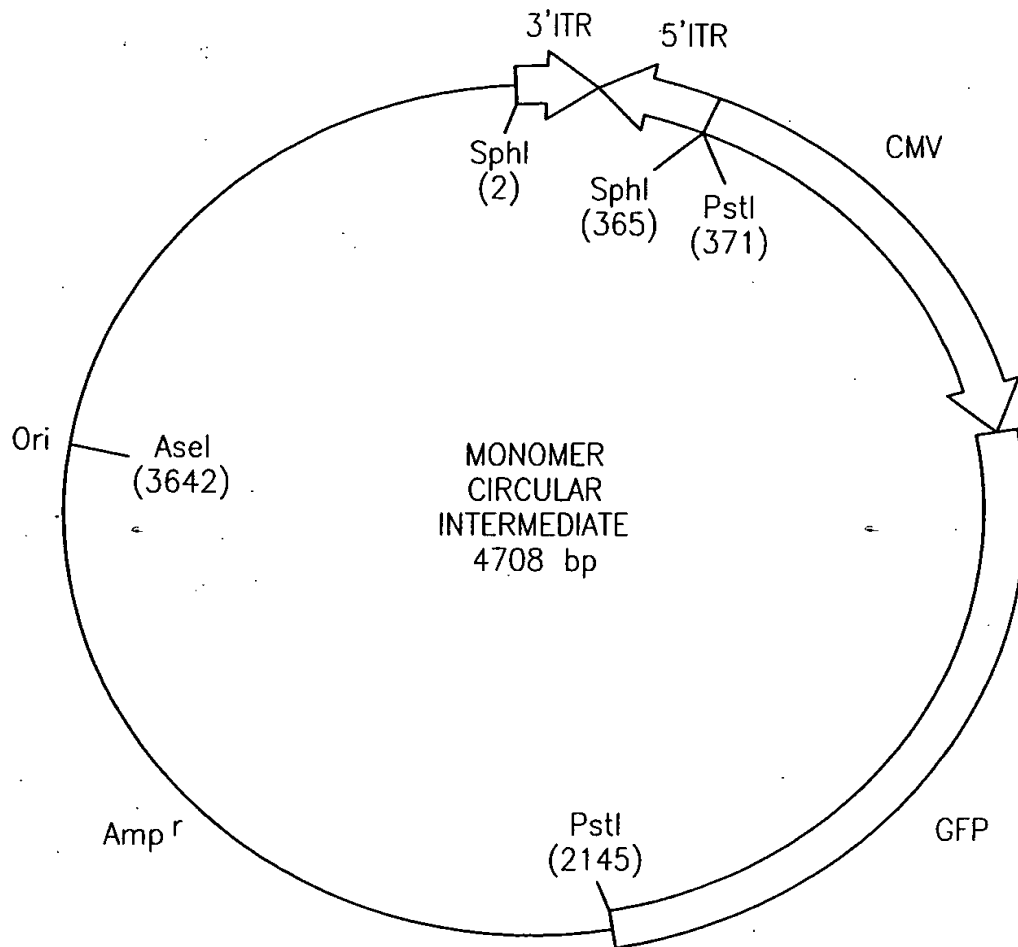


FIG. 1C

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INFECT HELA CELLS AND MUSCLE WITH AV.GFP3ori

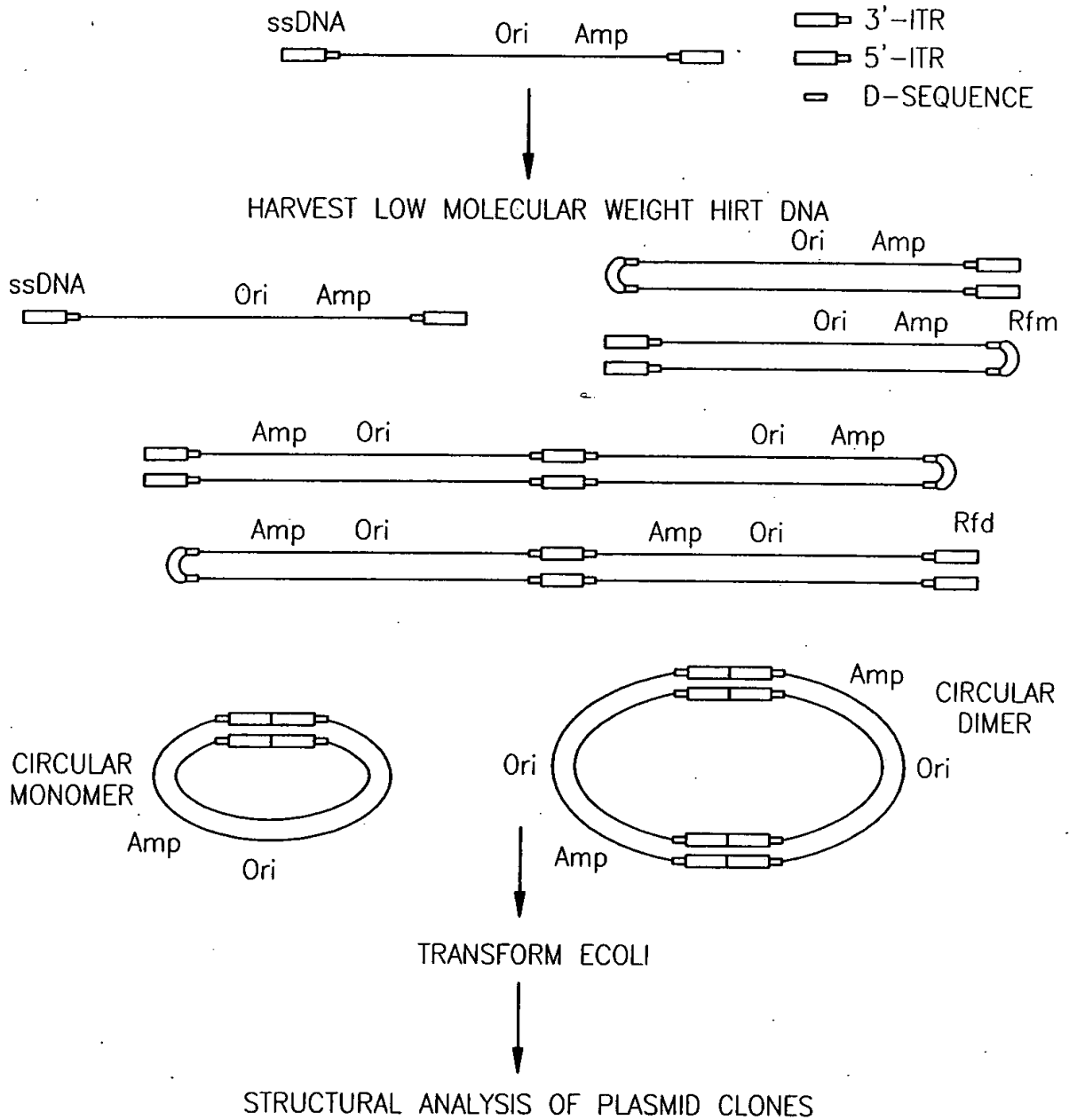


FIG. 1D

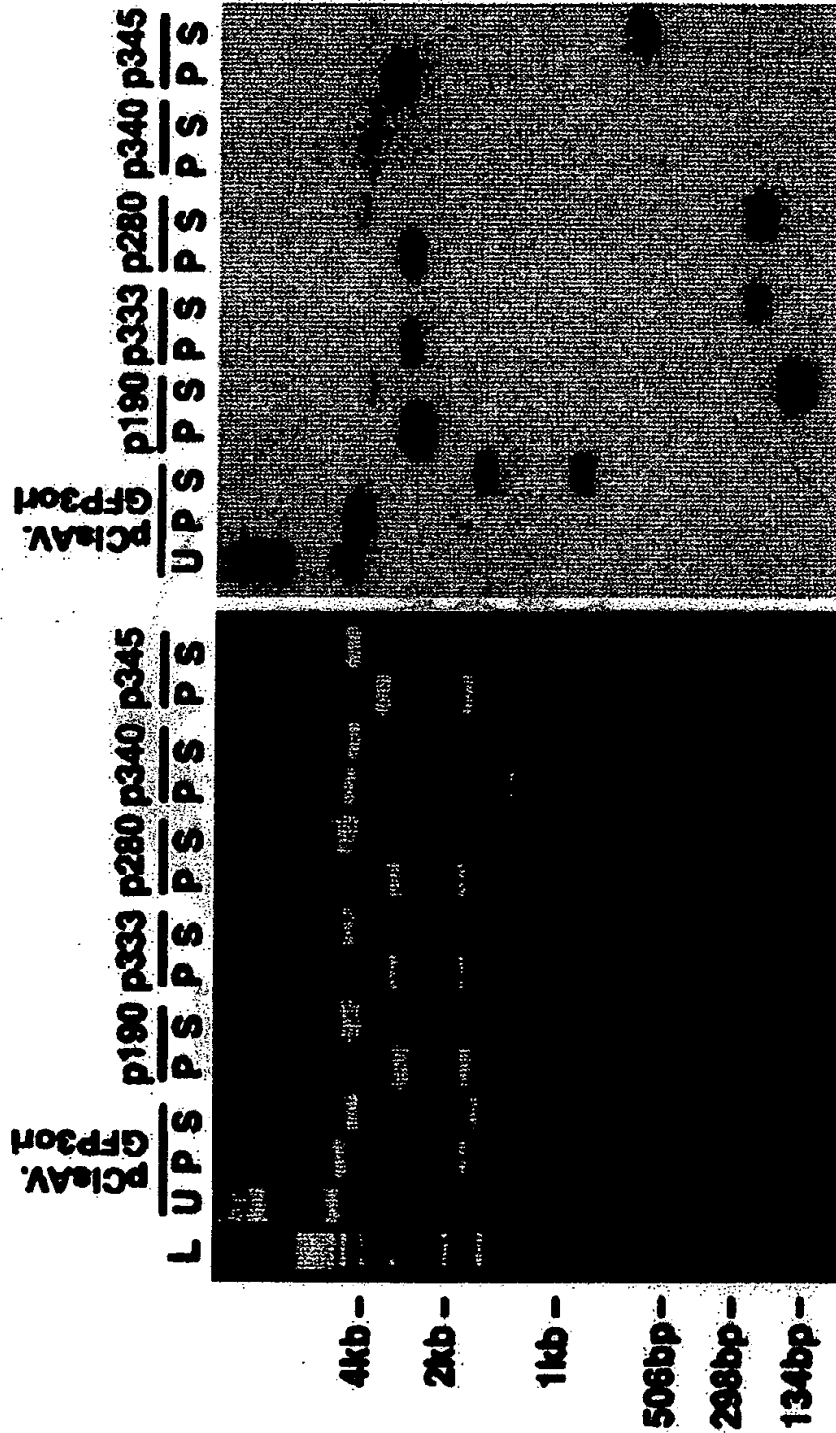


FIG. 2A

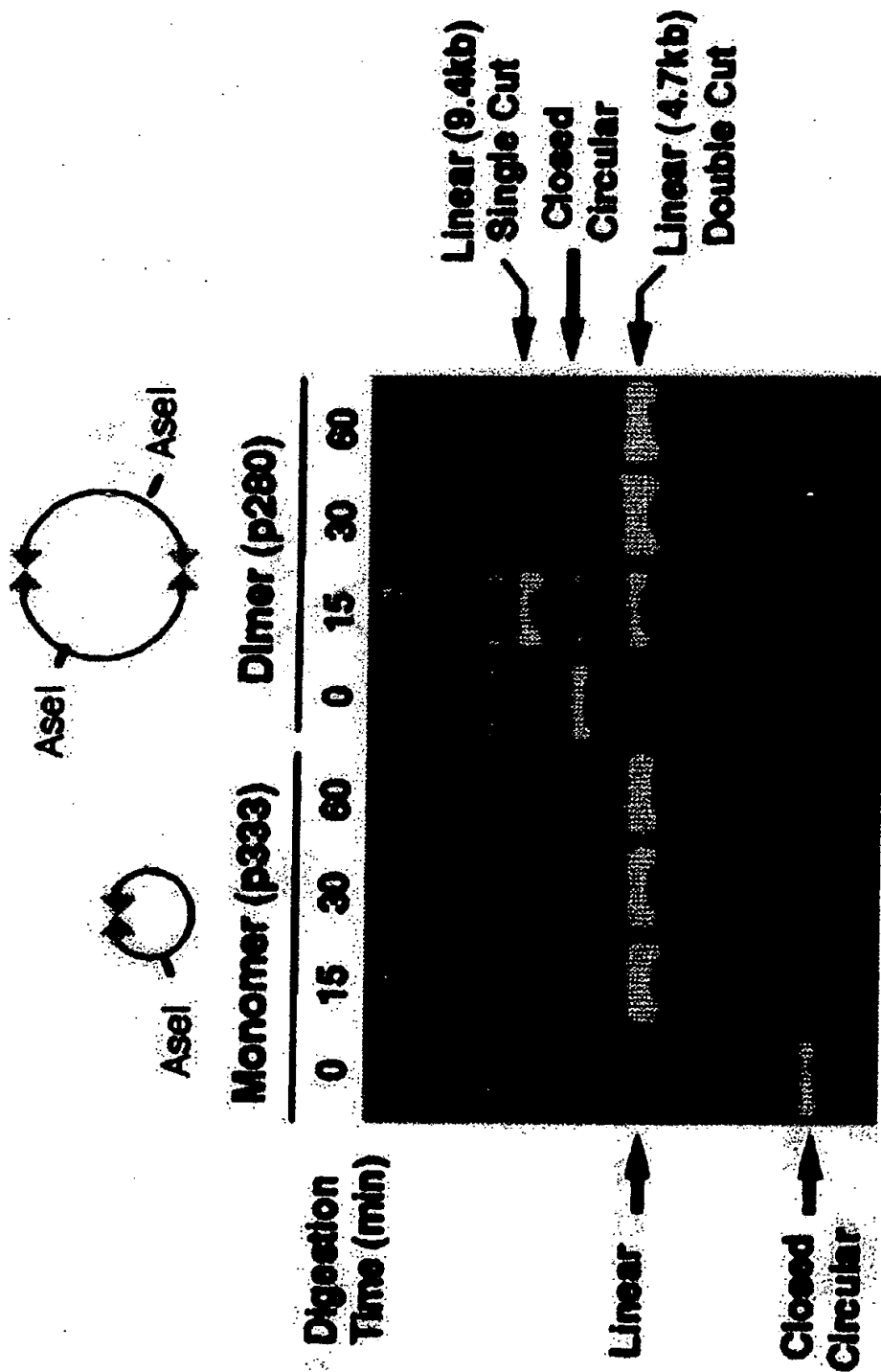


FIG. 2B

5'<->3' ITR
p79
p80
p81
p86
p87
p88

10 20 30 40 50 60 70 80 90 100 110

CGGGGCTCT TGGGGCTCA GCGAGGGGG CCATTACCG TAAGTTATGT AACGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC
-----GGCGGG CCATTACCG TAAGTTATGT 99CGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC
-----GG CCATTACCG TAAGTTATGT AACGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC
-----GG CCATTACCG TAAGTTATGT 99CGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC
-----GG CCATTACCG TAAGTTATGT AACGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC
-----GG CCATTACCG TAAGTTATGT AACGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC
-----G CCATTACCG TAAGTTATGT AACGACTGCA GCGATGCAAG CTCGATTTCA TCGGTAGATA AGTAGCATGG CCGGTTAATC

5'<->3' ITR
p79
p80
p81
p86
p87
p88

120 130 140 150 160 170 180 190 200 210 220

ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG CGTCTGCTCG CTCGCTGAGG CCGGGGAGC AAGGTGCGC GAGGCGCGG GCTTTGCGCG
ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG C----- C----- C----- C----- C----- C-----
ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG CGTCTGCTCG CTCGCTGAGG CCGGGGAGC AAGGTGCGC GAGGCGCGG GCTTTGCGCG
ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG C----- C----- C----- C----- C----- C-----
ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG CGTCTGCTCG CTCGCTGAGG CCGGGGAGC AAGGTGCGC GAGGCGCGG GCTTTGCGCG
ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG C----- C----- C----- C----- C----- C-----
ATTACTACA AGGAGCCCT AGTATGAGG TGGCCACTC CCTCTCTGG CGTCTGCTCG CTCGCTGAGG CCGGGGAGC AAGGTGCGC GAGGCGCGG GCTTTGCGCG

5'<->3' ITR
p79
p80
p81
p86
p87
p88

230 240 250 260 270 280 290 300 310 320 330

GCGGCGCTCA GTGAGGAGG GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG
----- GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG
----- GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG
----- GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG
----- GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG
----- GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG
----- GAGCGGCGG CTCGGGCTC GTCTGCTAC TGAGGCGCC CCGGCAAGC CCGGGCTCG GCGGACCTT GGTGCGCGG CTCGAGCGG

5'<->3' ITR
p79
p80
p81
p86
p87
p88

340 350 360 370 380 390 400 410 420 430 440

CGAGCGAGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA
-----CGAGCGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA
CGAGCGAGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA
CGAGCGAGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA
CGAGCGAGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA
CGAGCGAGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA
CGAGCGAGG CGCAGAGAG GAGTGGCAA CTGCAATCACT AGGGTTCTT TGTAGTTAT GATTACCCG CCAATGCTT TATTTACAGC TTGCATGCAT GTGAGCAAAA

5'<->3' ITR
p79
p80
p81
p86
p87
p88

450 460 470 480 490 500 505

GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC
GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC
GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC
GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC
GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC
GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC
GCGCAGCAA AGGCAGGAA CCGTAAAG GCGCGCTTC TCGGCTTTT CCAAGGCTC CCGCC

FIG. 2C

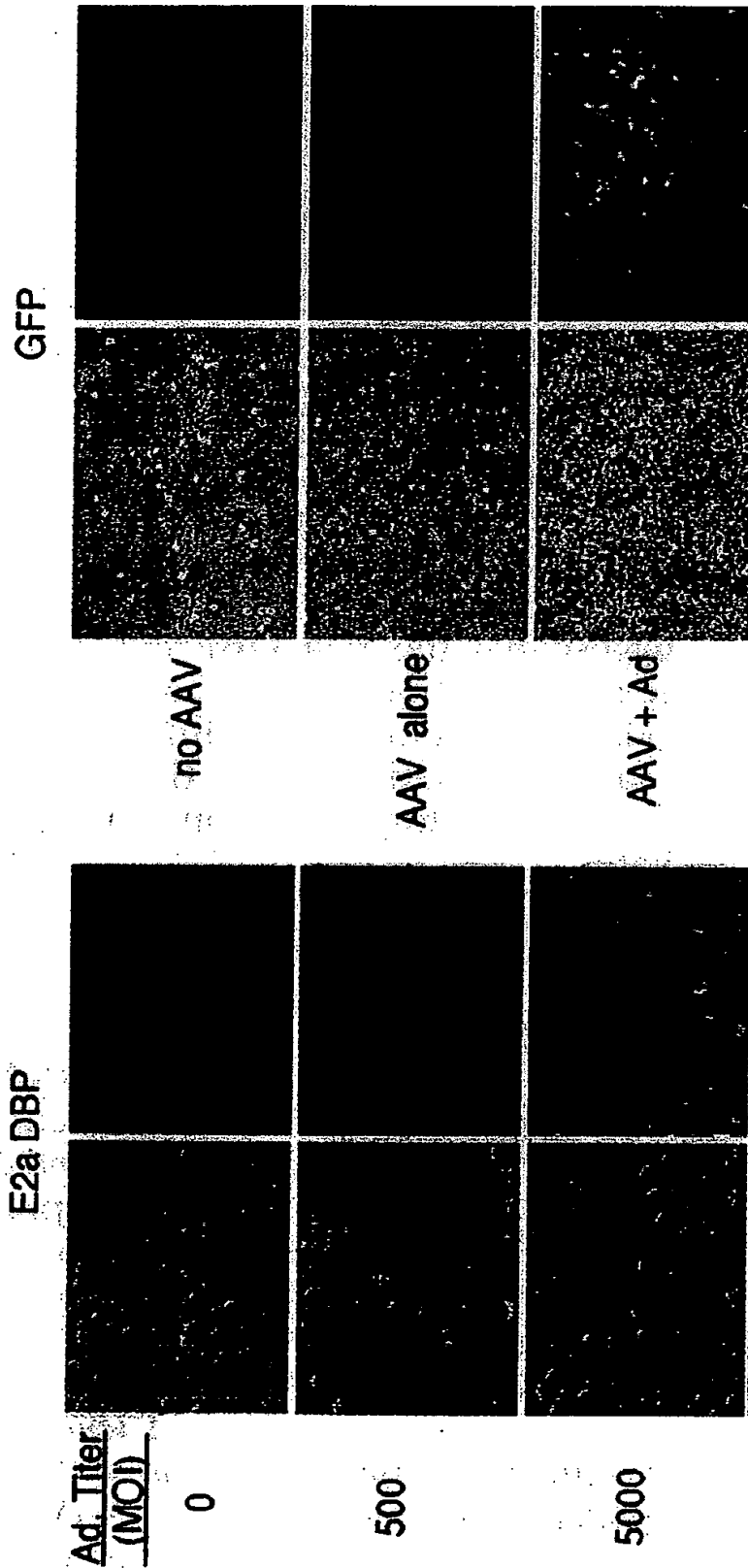


FIG. 3B

FIG. 3A

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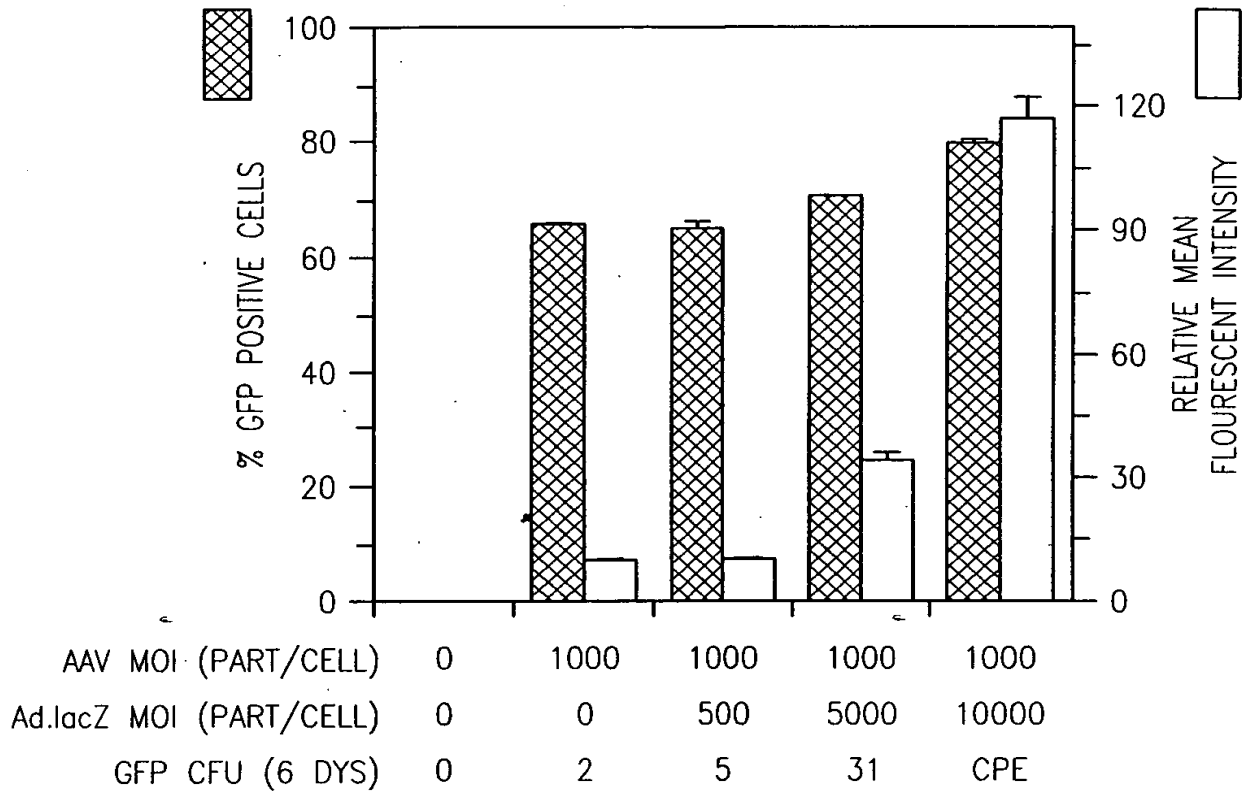


FIG. 3C

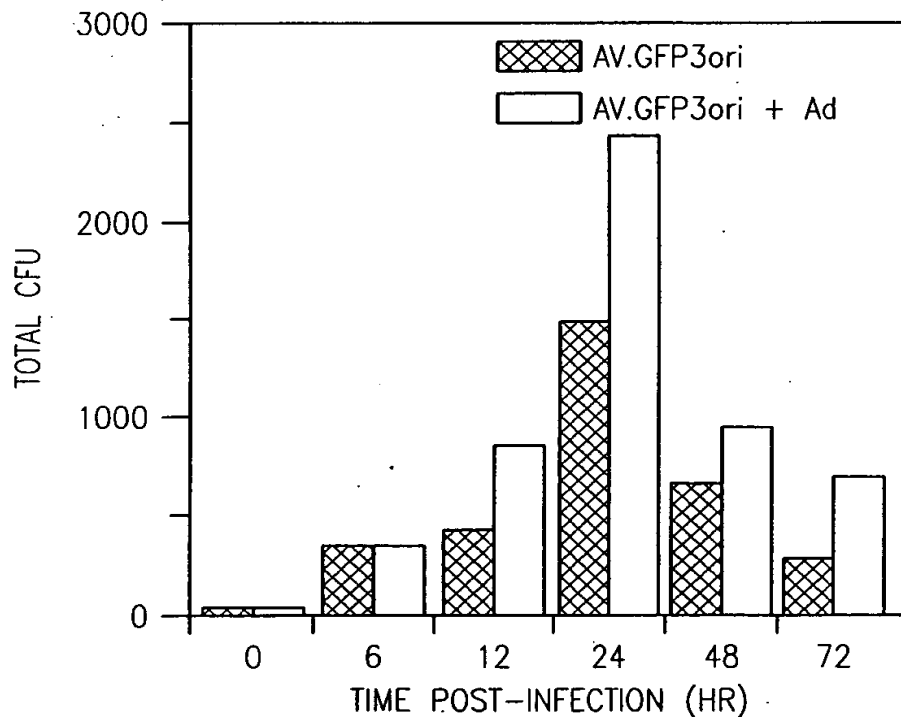


FIG. 3D

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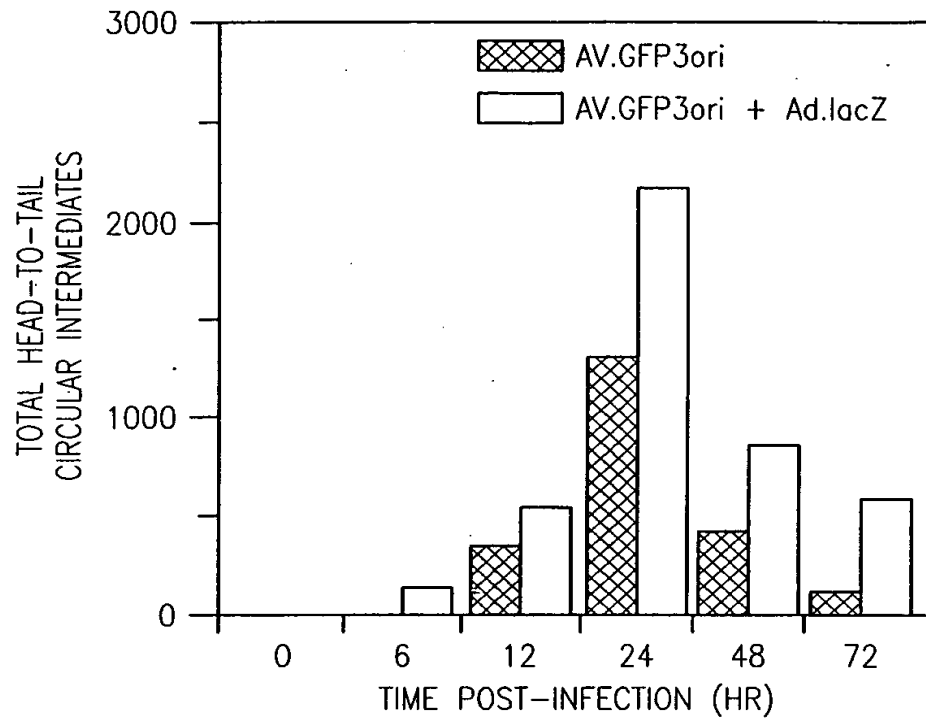


FIG. 3E

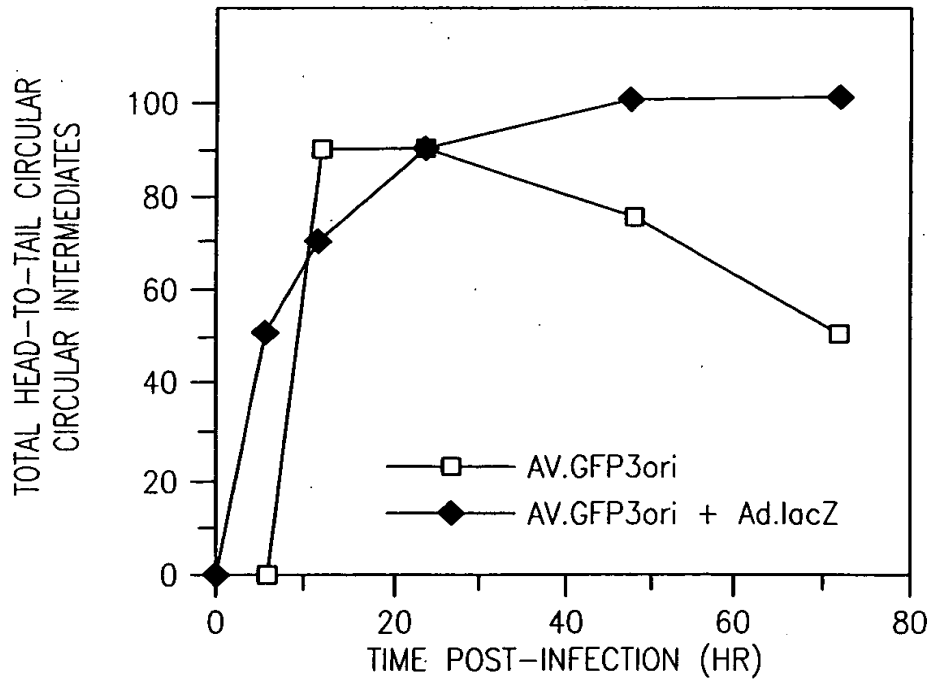


FIG. 3F

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/276,625

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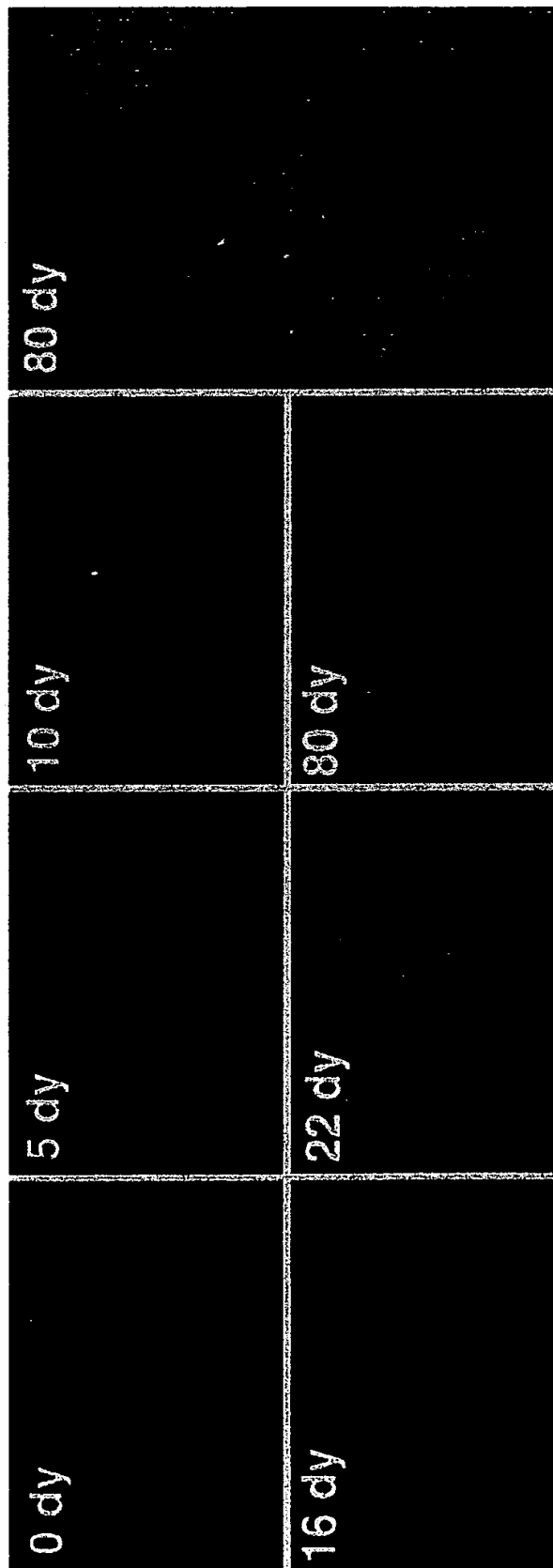


FIG. 4A

20250703 09:34:50

2022T0"999t500T

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
 INVENTORS NAME: John F. Engelhardt et al.
 SERIAL NO.: 09/276,625

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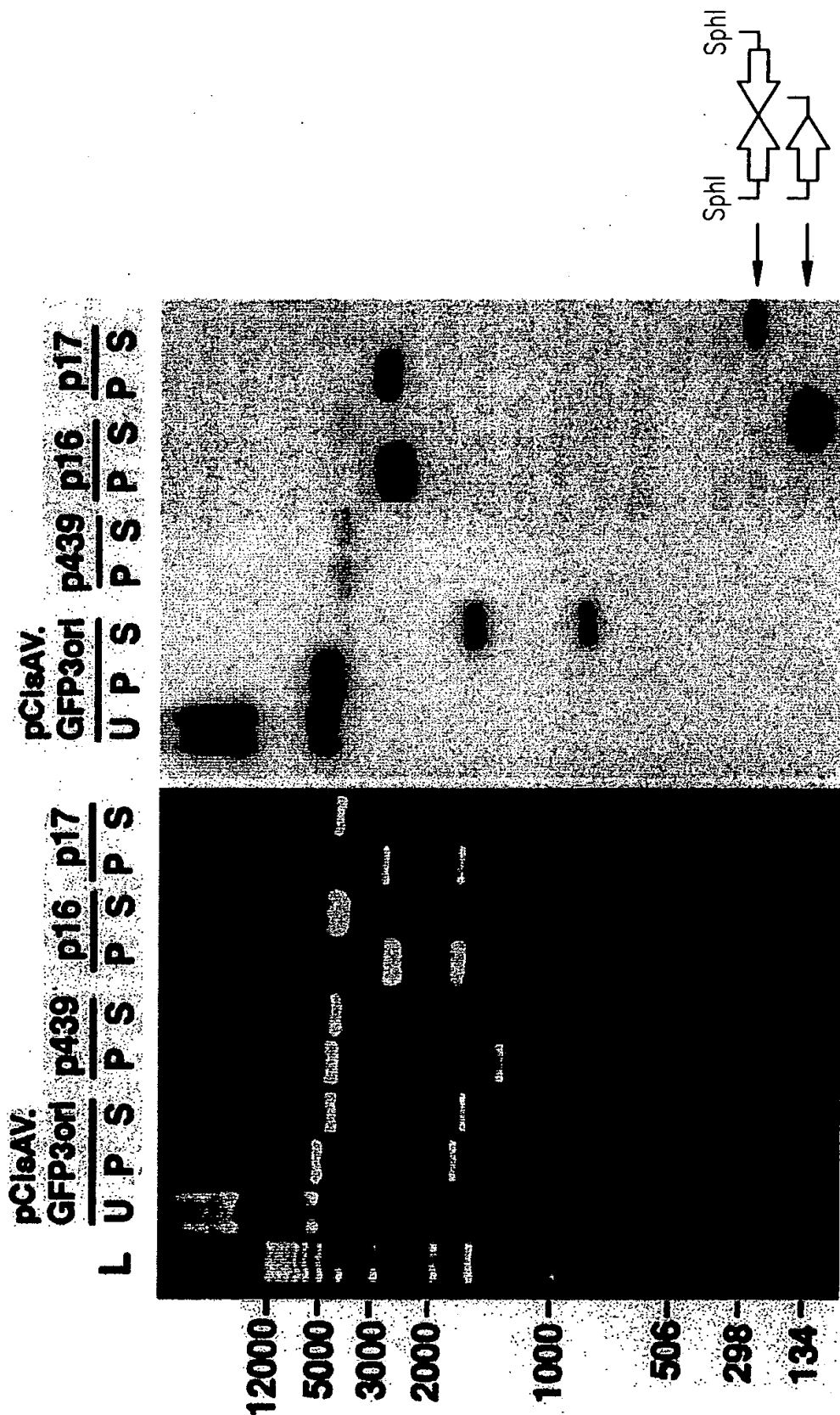


FIG. 4B

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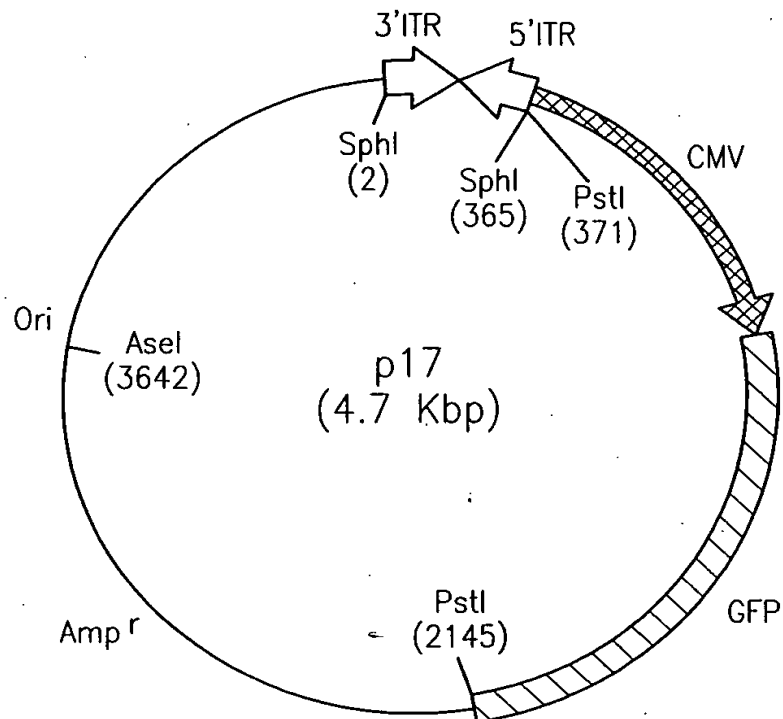


FIG. 4C

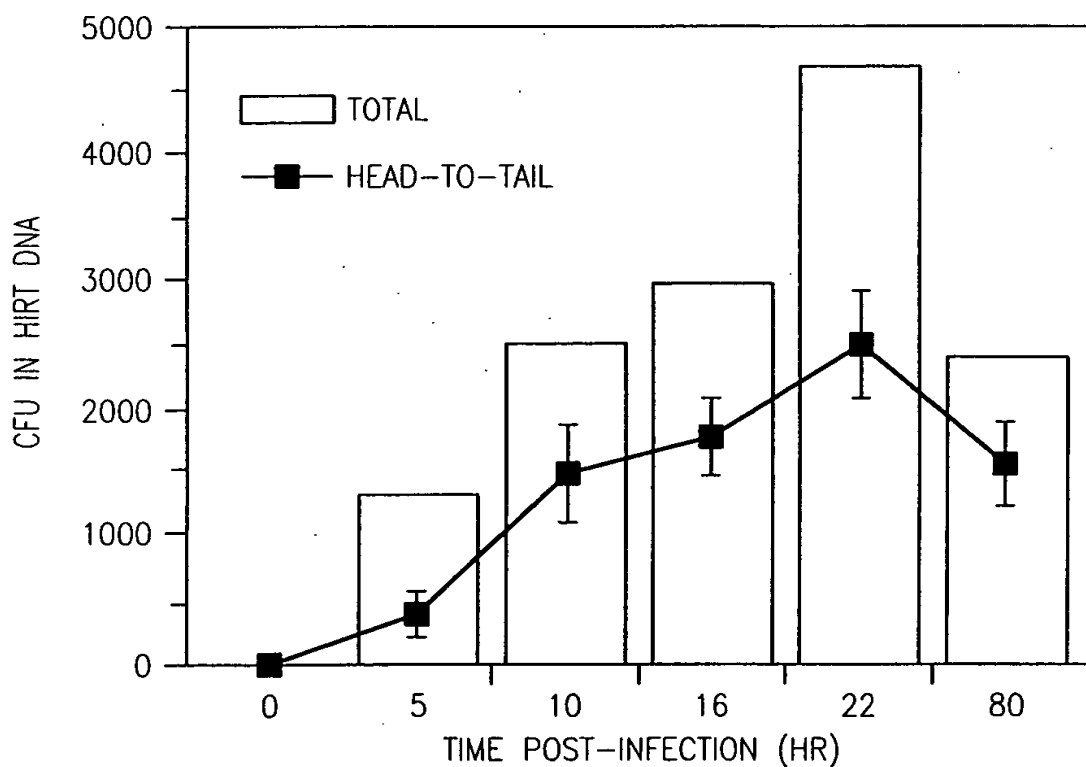


FIG. 5A

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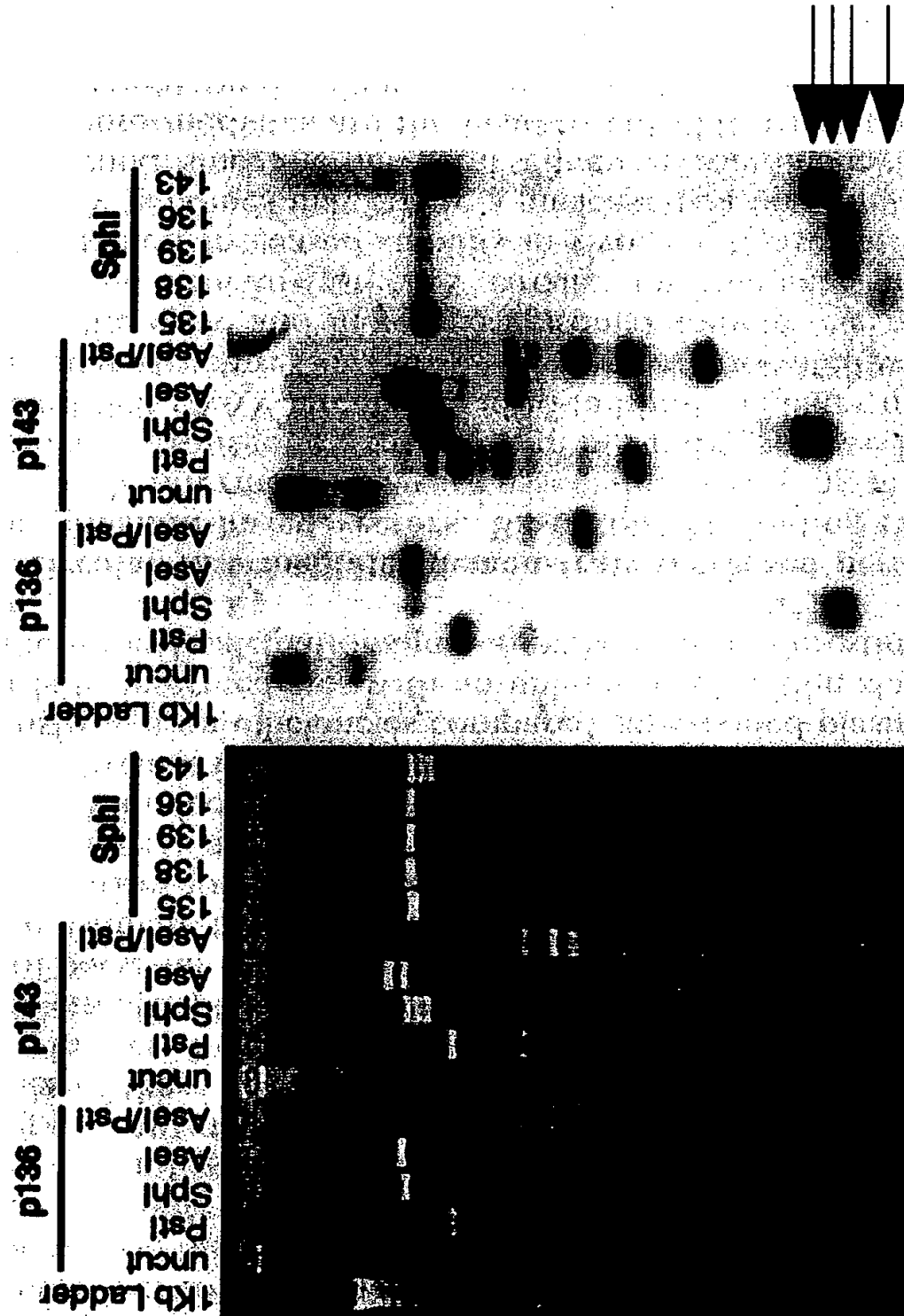


FIG. 5B

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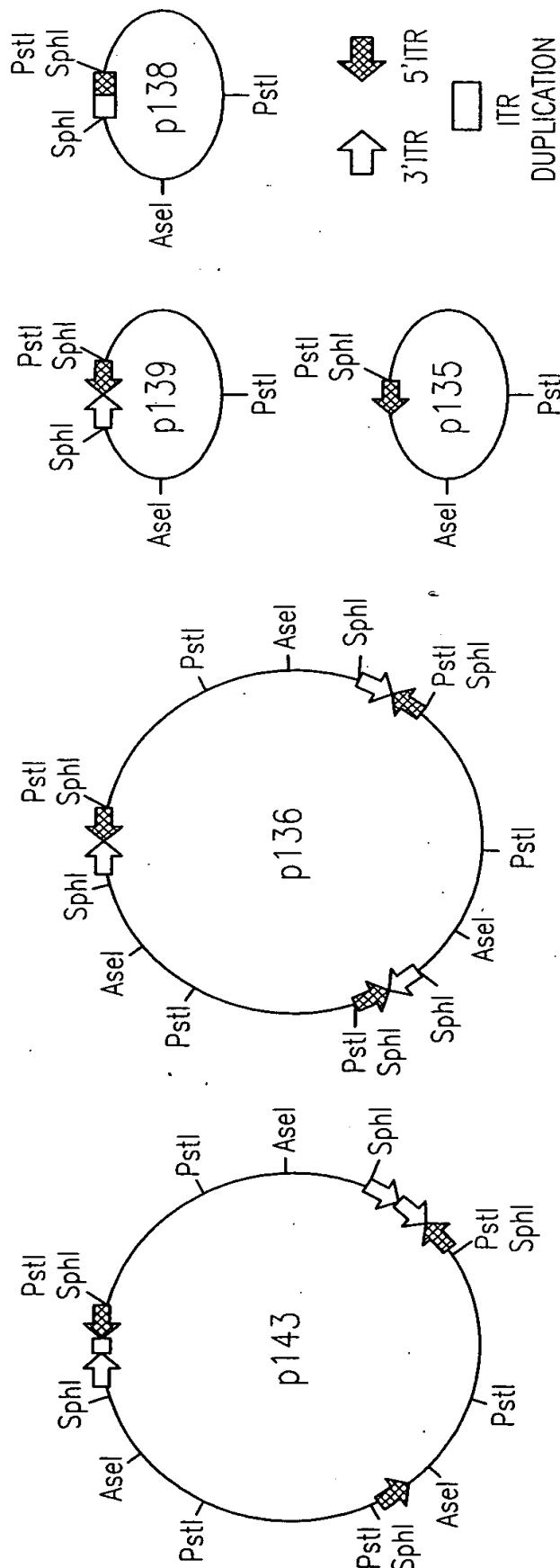


FIG. 5C

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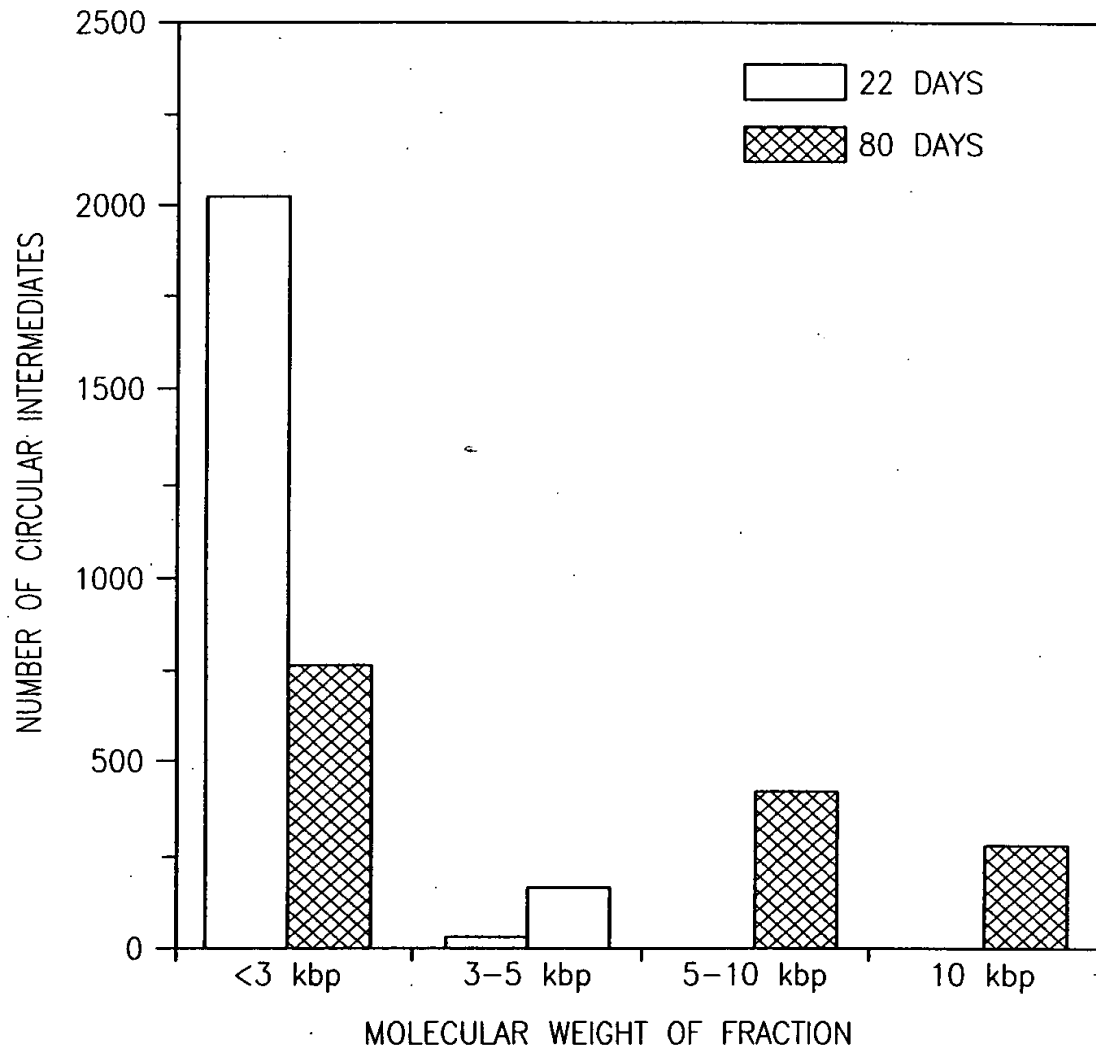
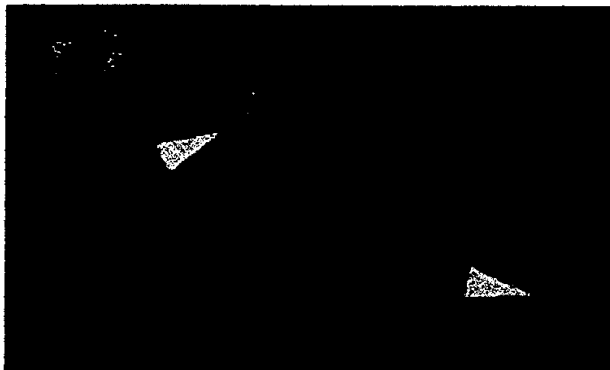


FIG. 6

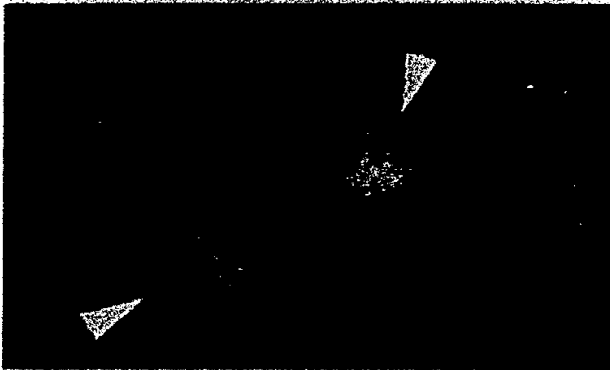
TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/276,625

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p81



p87



pCMVGFP

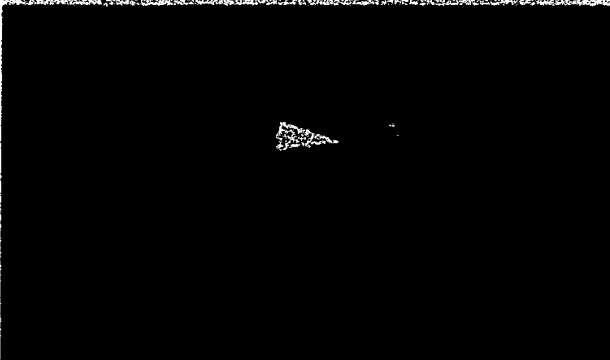


FIG. 7A

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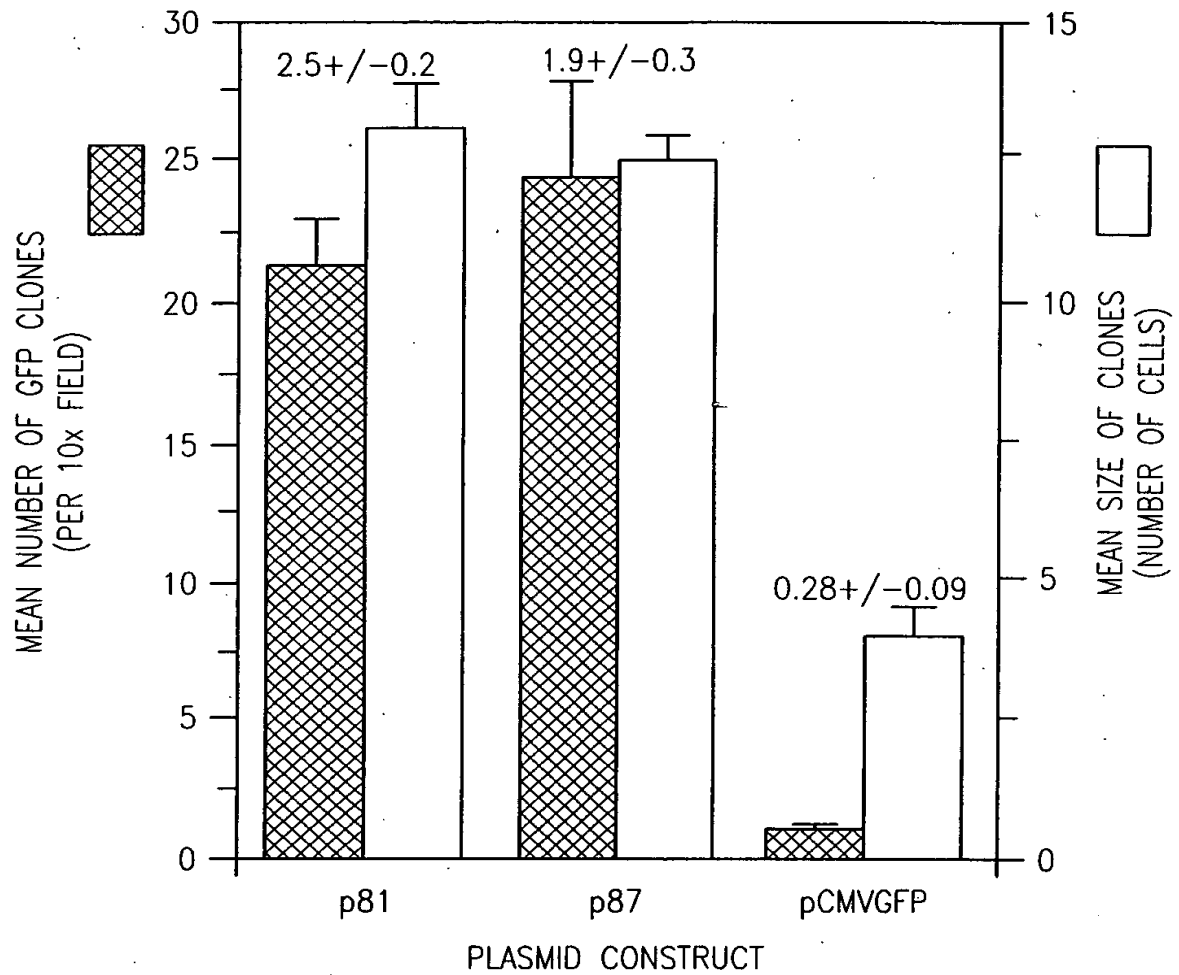


FIG. 7B

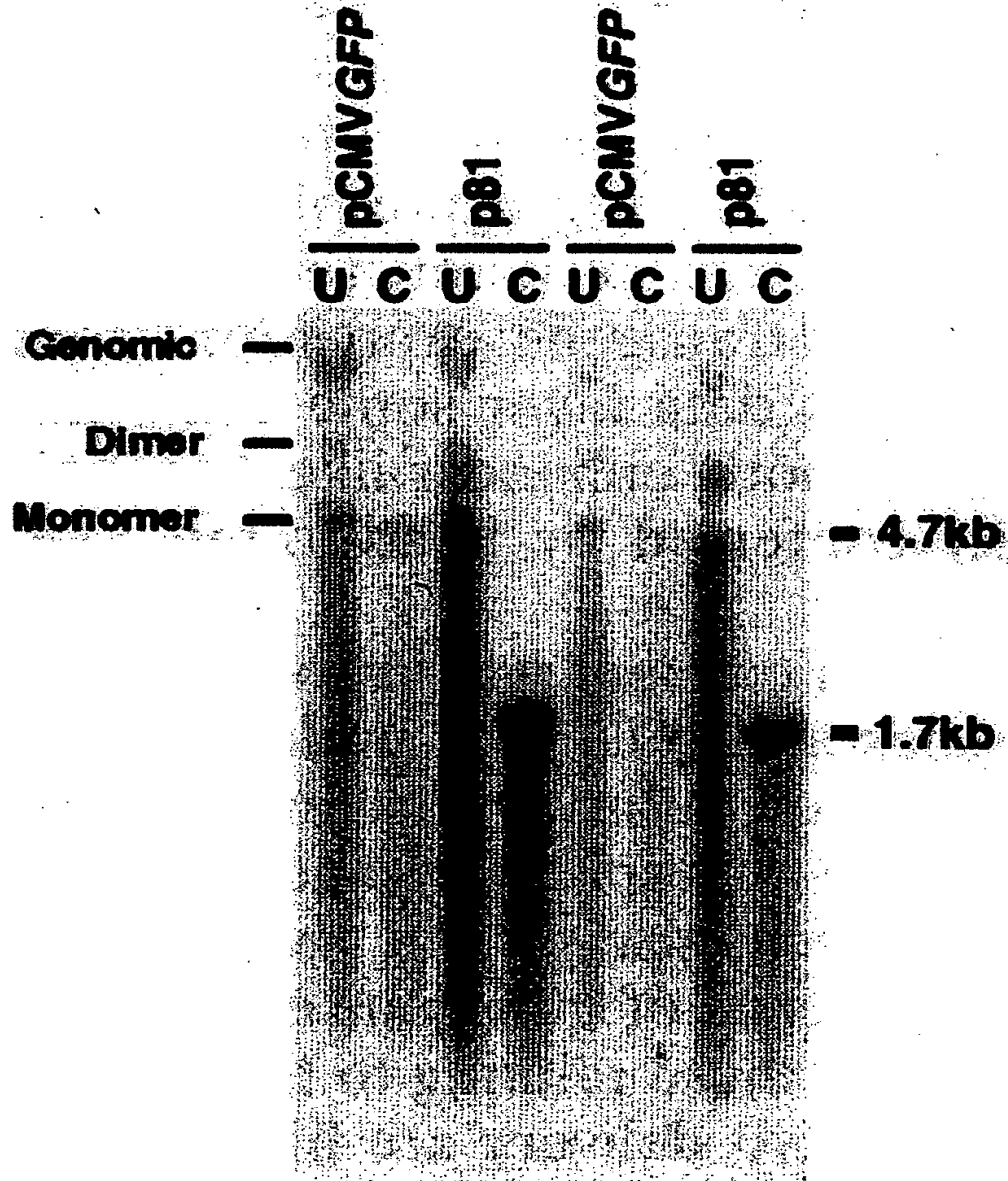


FIG. 7C

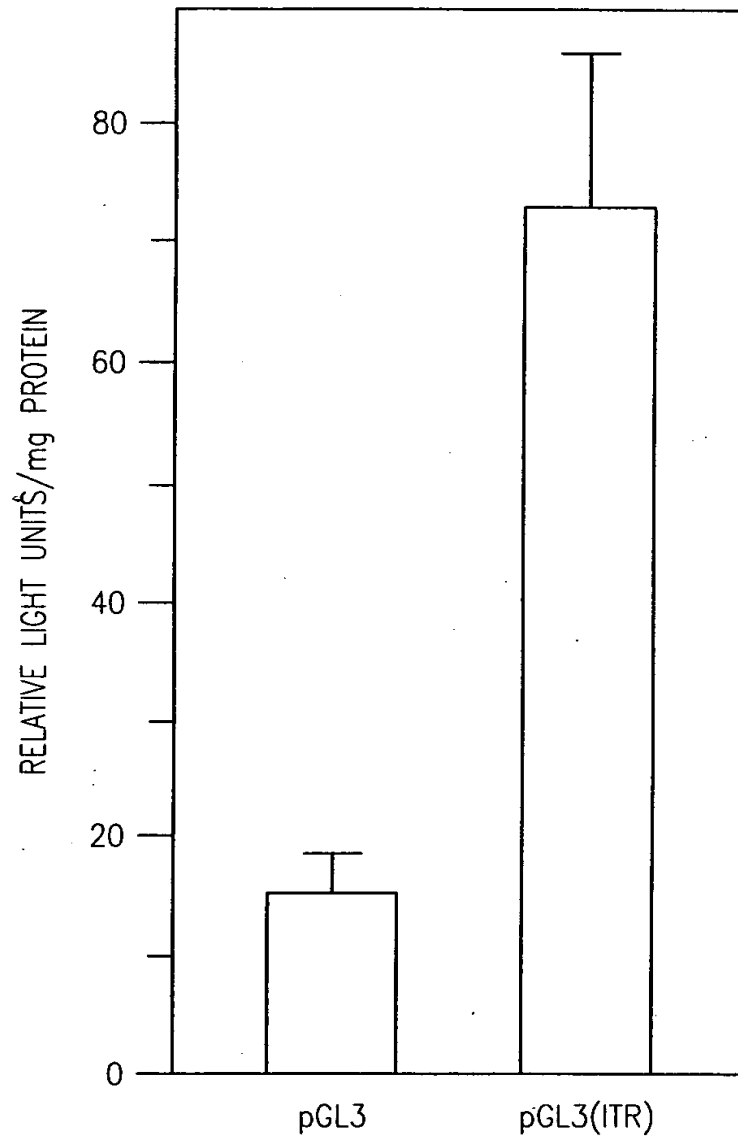


FIG. 7D

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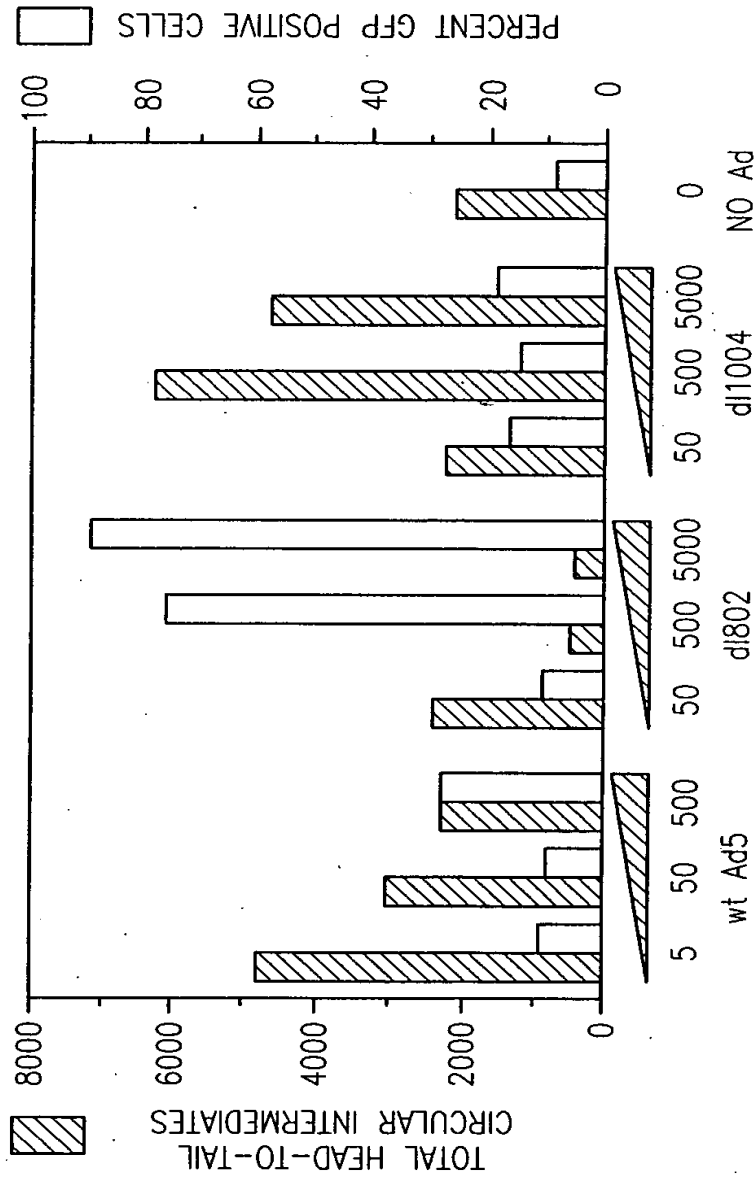


FIG. 8A

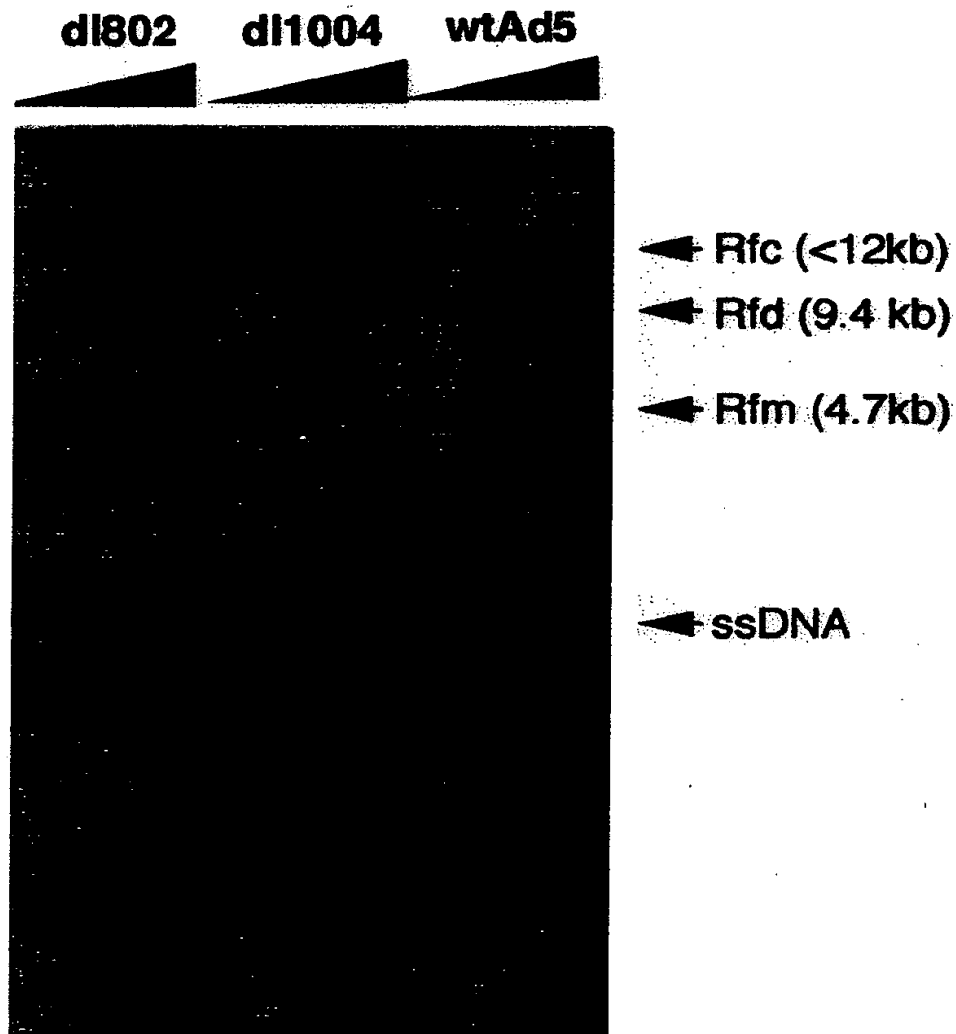


FIG. 8B

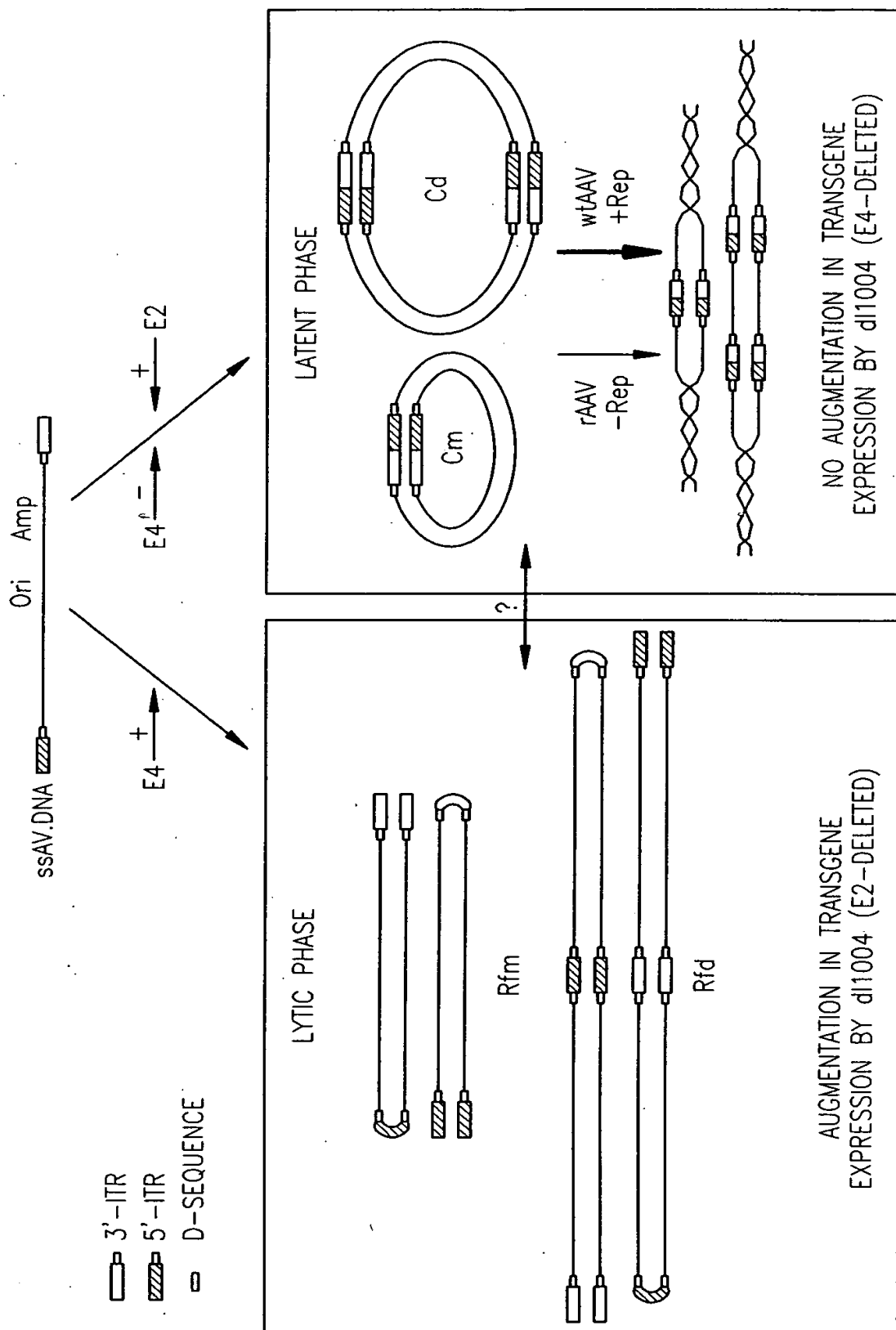


FIG. 9

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10 20 30 40 50 60
GCATGCAAGC TGTAGATAAG TAGCATGGCG GGTAAATCAT TAACTACAAG GAACCCCTAG
CGTACGTTTC ACATCTATTTC ATCGTACCGC CCAATTAGTA ATTGATGTTC CTTGGGGATC

70 80 90 100 110 120
TGATGGAGTT GGCCACTCCC TCTCTGCGCG CTCGCTCGCT CACTGAGGCC GGGCGGCCAA
ACTACCTCAA CCGGTGAGGG AGAGACGCGC GAGCGAGCGA GTGACTCCGG CCCGCCGGTT

130 140 150 160 170 180
AGGTCGCCCC ACGCCCGGGC TTTGCCCCGG CGGCCTCAGT GAGCGAGCGA GCGCGCAGAG
TCCAGCGGGC TGCGGGCCCC AAACGGGGCC GCCGGAGTCA CTCGCTCGCT CGCGCGTCTC

190 200 210 220 230 240
AGGGAGTGGC CAACTCCATC ACTAGGGGTT CCTTGTAAGT AATGATTAAAC CCGCCATGCT
TCCCTCACCG GTTGAGGTAG TGATCCCCAA GGAACATCAA TTACTAATTG GCGGGTACGA

250 260 270 280
ACTTATCTAC CGATGAATTC GAGCTTGCAT GC.....
TGAATAGATG GCTACTTAAG CTCGAACGTA CG.....

FIG. 10A

10 20 30 40 50 60
GCATGCAAGC TGTAGATAAG TAGCATGGCG GGTAAATCAT TAACTACAAG GAACCCCTAG
CGTACGTTTC ACATCTATTTC ATCGTACCGC CCAATTAGTA ATTGATGTTC CTTGGGGATC

70 80 90 100 110 120
TGATGGAGTT GGCCACTCCC TCTCTGCGCG CTCGCTCGCT CACTGAGGCC GGGCGCGCGC
ACTACCTCAA CCGGTGAGGG AGAGACGCGC GAGCGAGCGA GTGACTCCGG CCCGCCGGCG

130 140 150 160 170 180
TCGCTCGCTC ACTGAGGCCG GCGGACCAAA GGTGCGCCGA GCCCGGGCTT TGCCCGGGCG
AGCGAGCGAG TGACTCCGGC CGGCTGGTTT CCAGCGGGCT CGGGCCCGAA ACGGGCCCCG

190 200 210 220 230 240
GCCTCAGTGA GCGAGCGCGC GCGCAGAGAG GGAGTGGCCA ACTCCATCAC TAGGGGTTCC
CGGAGTCACT CGCTCGCGCG CGCGTCTCTC CCTCACCGGT TGAGGTAGTG ATCCCCAAGG

250 260 270 280 290 300
TTGTAGTTAA TGATTAAACC GCCATGCTAC TTATCTACCG ATGAATTGGA GCTTGCATGC
AACATCAATT ACTAATTGGG CCGTACGATG AATAGATGGC TACTTAAGCT CGAACGTACG

FIG. 10B

2025-04-23 10:00:00

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10 20 30 40 50 60
GCATGCAAGC TGTAGATAAG TAGCATGGCG GGTTAATCAT TAACTACAAG GAACCCCTAG
CGTACGTTTCG ACATCTATTTC ATCGTACCGC CCAATTAGTA ATTGATGTTC CTTGGGGATC

70 80 90 100 110 120
TGATGGAGTT GGCCACTCCC TCTCTGCGCG CTCGCTCGCT CACTGAGGCG GGGCGACCAA
ACTACCTCAA CCGGTGAGGG AGAGACGCGC GAGCGAGCGA GTGACTCCGG CCGCTGGTT

130 140 150 160 170 180
AGGTGCGCCG ACGCCCGGGC TTGGTGCGC CGGCCTCAGT GAGCGAGCGA GCGCGCAGAG
TCCAGCGGGC TCGGGGCCCC AAACCAGCGG GCCGGAGTCA CTCGCTCGCT CCGCGGTCTC

190 200 210 220 230 240
AGGGAGTGGC CAACTCCATC ACTAGGGGTT CCTTGTAAGT AATGATTAAC CCGCCATGCT
TCCCTCAOCG GTTGAGGTAG TGATCCCCAA GGAACATCAA TTACTAATTG GCGGGTACGA

250 260 270 280
ACTTATCTAC CGATGAATTC GAGCTTGCAT GC.....
TGAATAGATG GCTACTTAAG CTCGAACGTA CG.....

FIG. 10C

202510-01-01

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		10	20	30	40	50	
P81	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	50
p79	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	50
p1202	1	GCATGCAAGC	TGTAGATAAG	TAGCATGGCG	GGTTAATCAT	TAACTACAAG	50
		60	70	80	90	100	
P81	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
p79	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
p1202	51	GAACCCCTAG	TGATGGAGTT	GGCCACTCCC	TCTCTGCGCG	CTCGCTCGCT	100
		110	120	130	140	150	
P81	101	CACTGAGGCC	GGGCG-----	-----	-----	----GCCAAAG	150
p79	101	CACTGAGGCC	GGGCGCGCGC	TCGCTCGCTC	ACTGAGGCCG	GGCGaCcAAa	150
p1202	101	CACTGAGGCC	GGGCG-----	-----	-----	----ACCAAAG	150
		160	170	180	190	200	
P81	151	GTCGCCCCGAC	GCCCCGGGCTT	TGCCCCGGGCG	GCCTCAGTGA	GCGAGCGAGC	200
p79	151	GgtcgCCcga	GCCCCGGGCTT	TGCCCCGGGCG	GCCTCAGTGA	GCGAGCGcGC	200
p1202	151	GTCGCCCCGAC	GCCCCGGGCTT	TGgtCGccCG	GCCTCAGTGA	GCGAGCGAGC	200
		210	220	230	240	250	
P81	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
p79	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
p1202	201	GCGCAGAGAG	GGAGTGGCCA	ACTCCATCAC	TAGGGGTTCC	TTGTAGTTAA	250
		260	270	280	290	300	
P81	251	TGATTAAACC	GCCATGCTAC	TTATCTACCG	ATGAATTGGA	GCTTGcATGC	300
p79	251	TGATTAAACC	GCCATGCTAC	TTATCTACCG	ATGAATTGGA	GCTTGcATGC	300
p1202	251	TGATTAAACC	GCCATGCTAC	TTATCTACCG	ATGAATTGGA	GCTTGcATGC	300

FIG. 11

20250909 042202

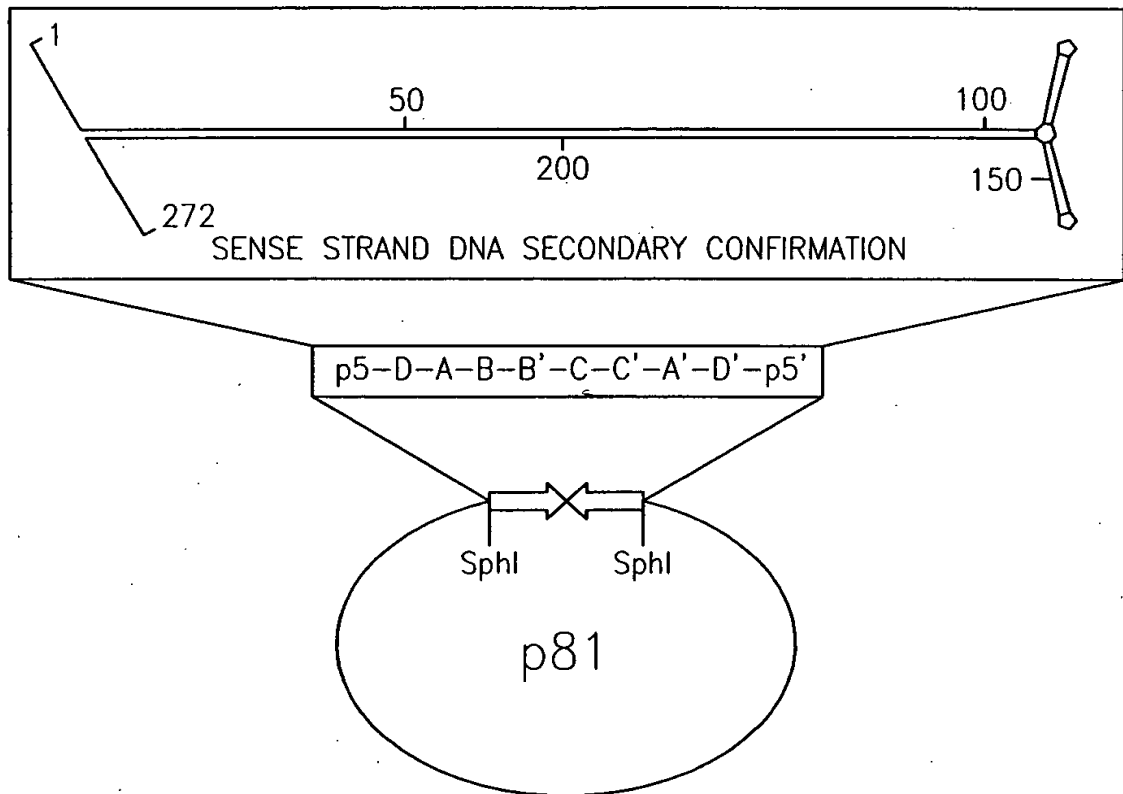


FIG. 12A

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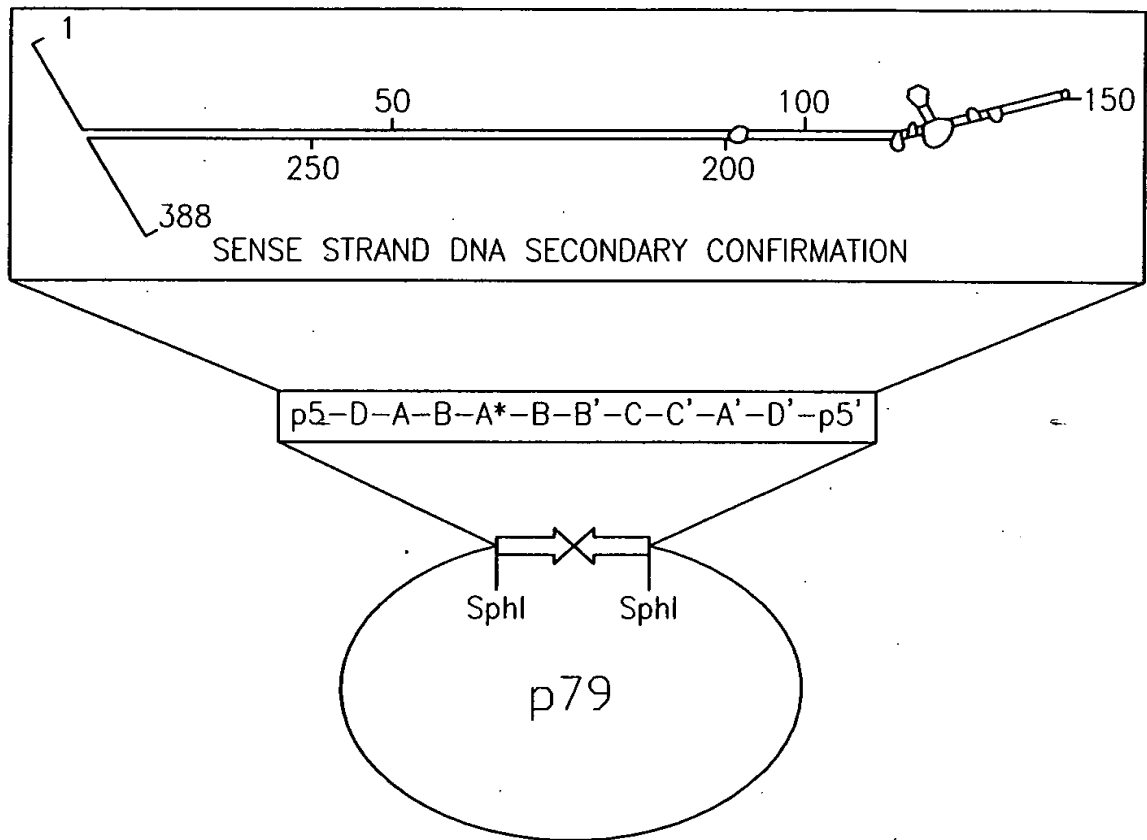


FIG. 12B

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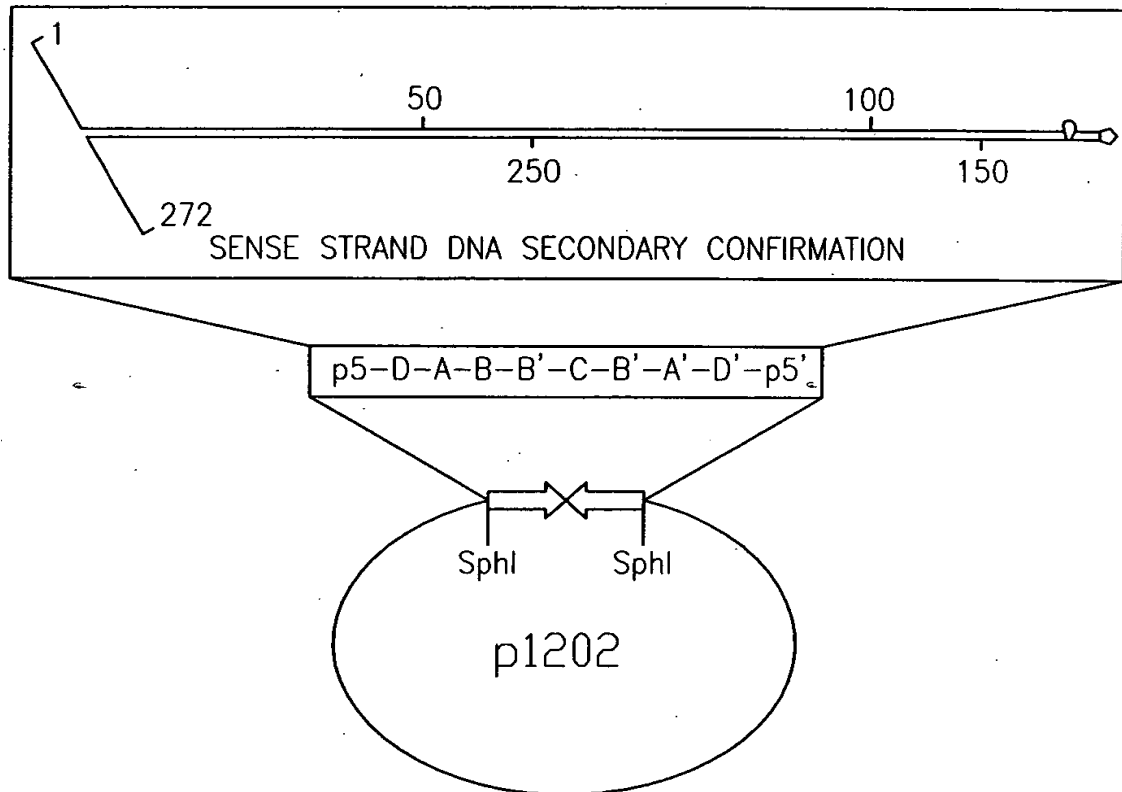


FIG. 12C

Bright Field

p81

pCisAV.GFPori

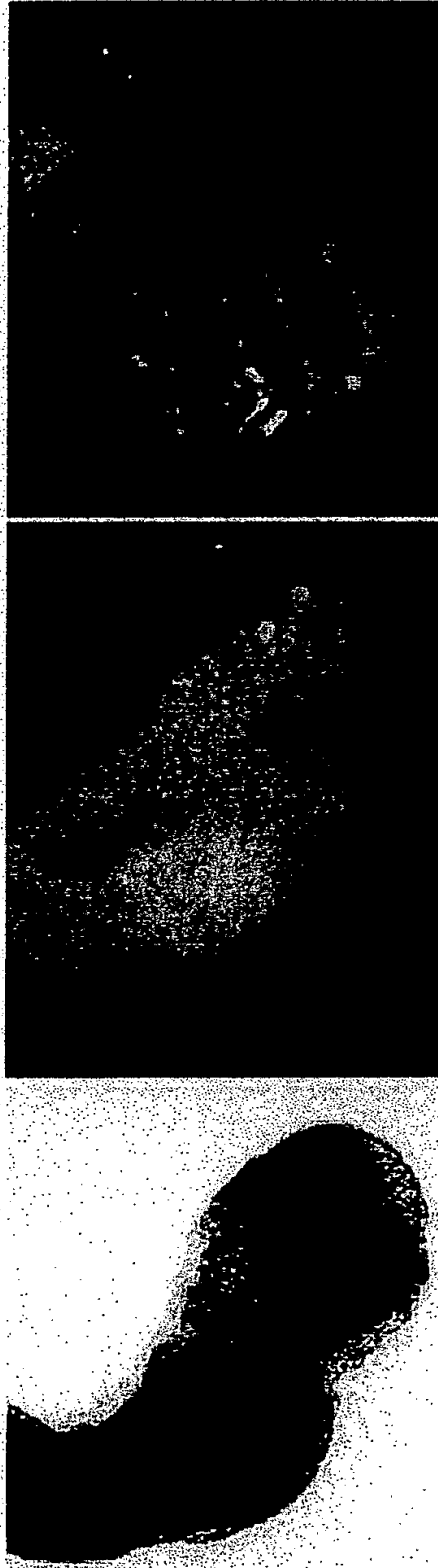


FIG. 13

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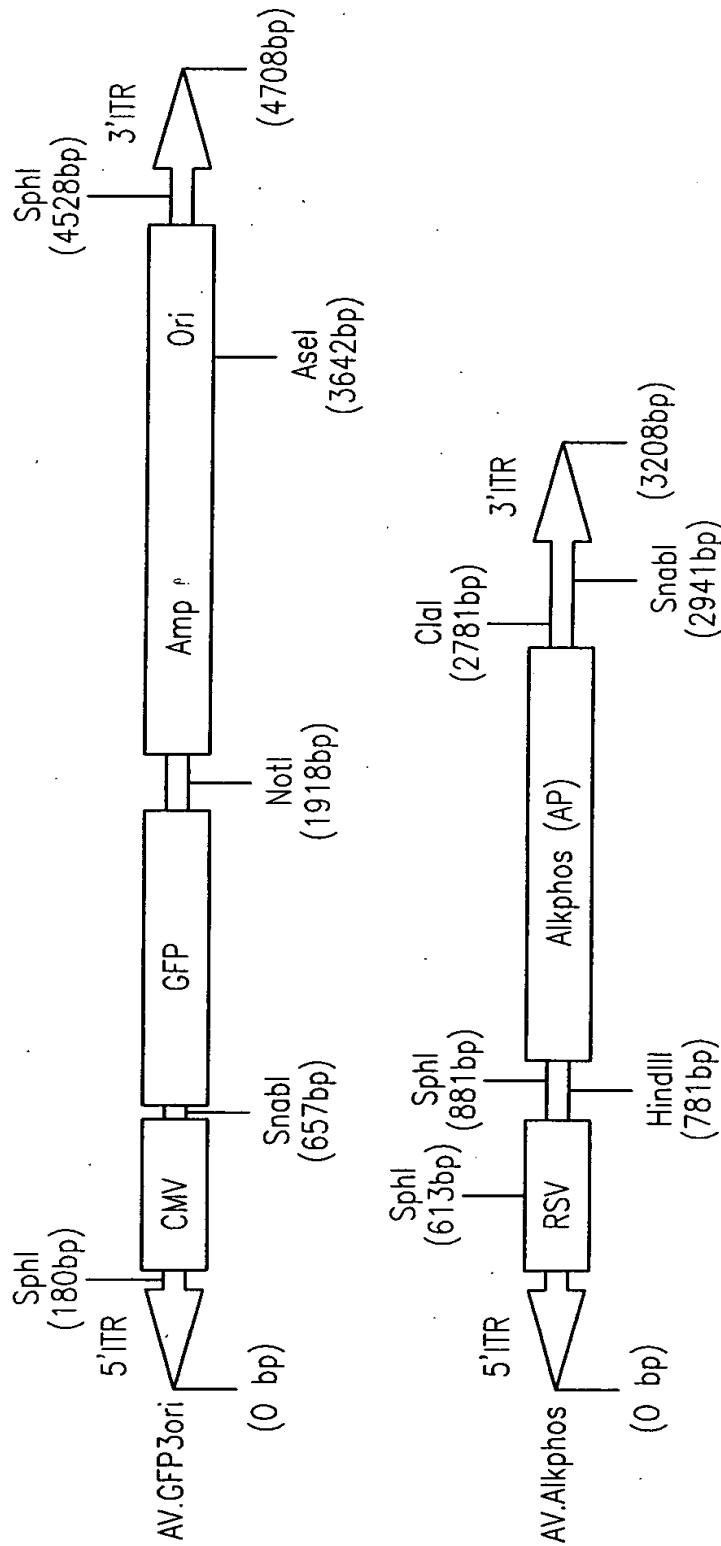


FIG. 14A

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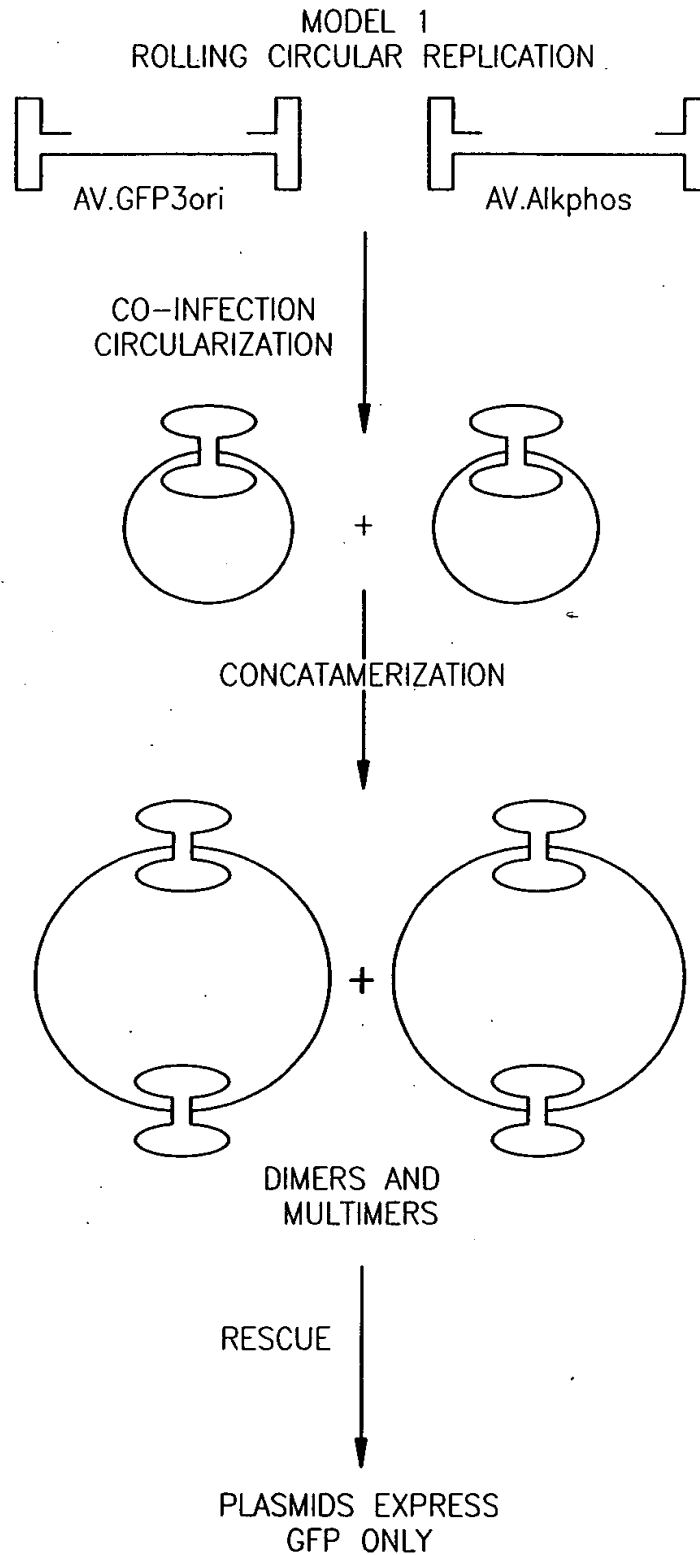


FIG. 14B

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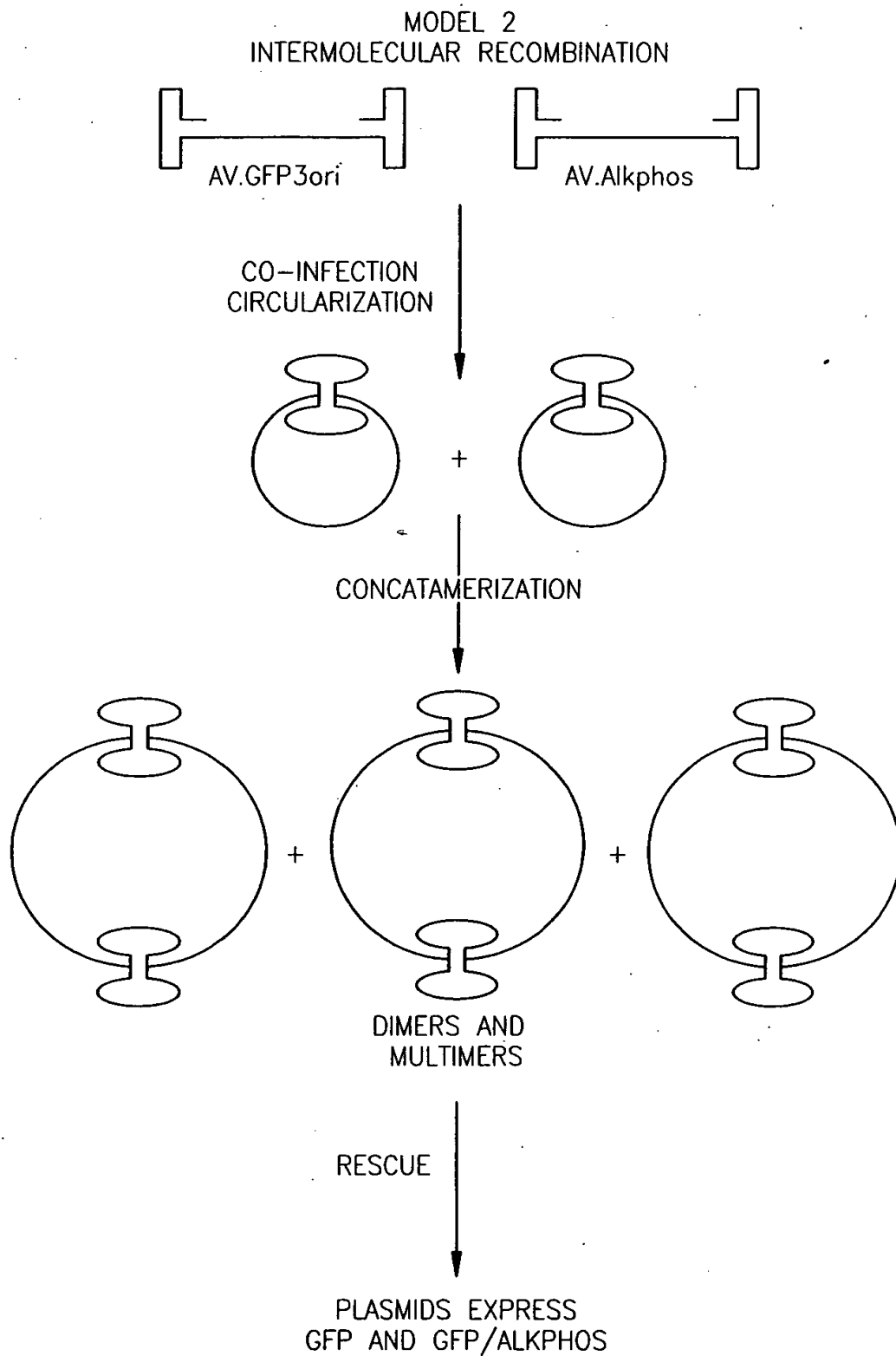


FIG. 14C

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/276,625

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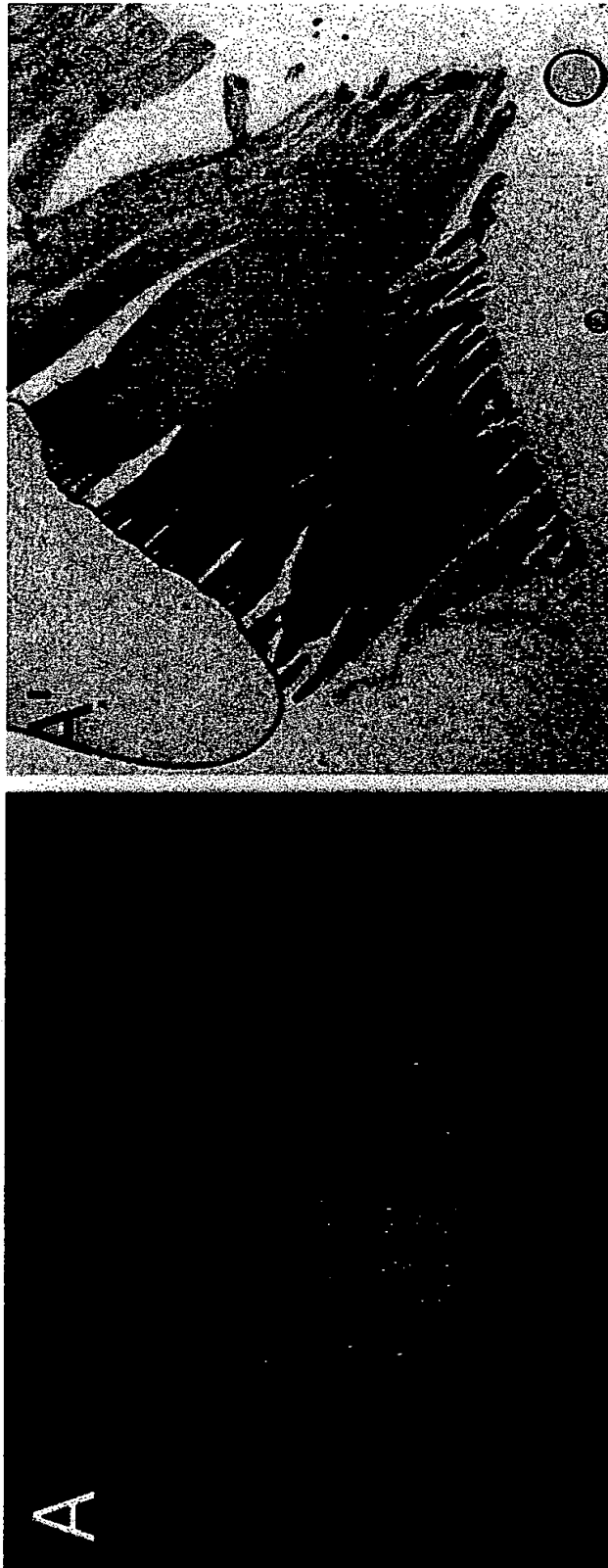


FIG. 15A

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/276,625

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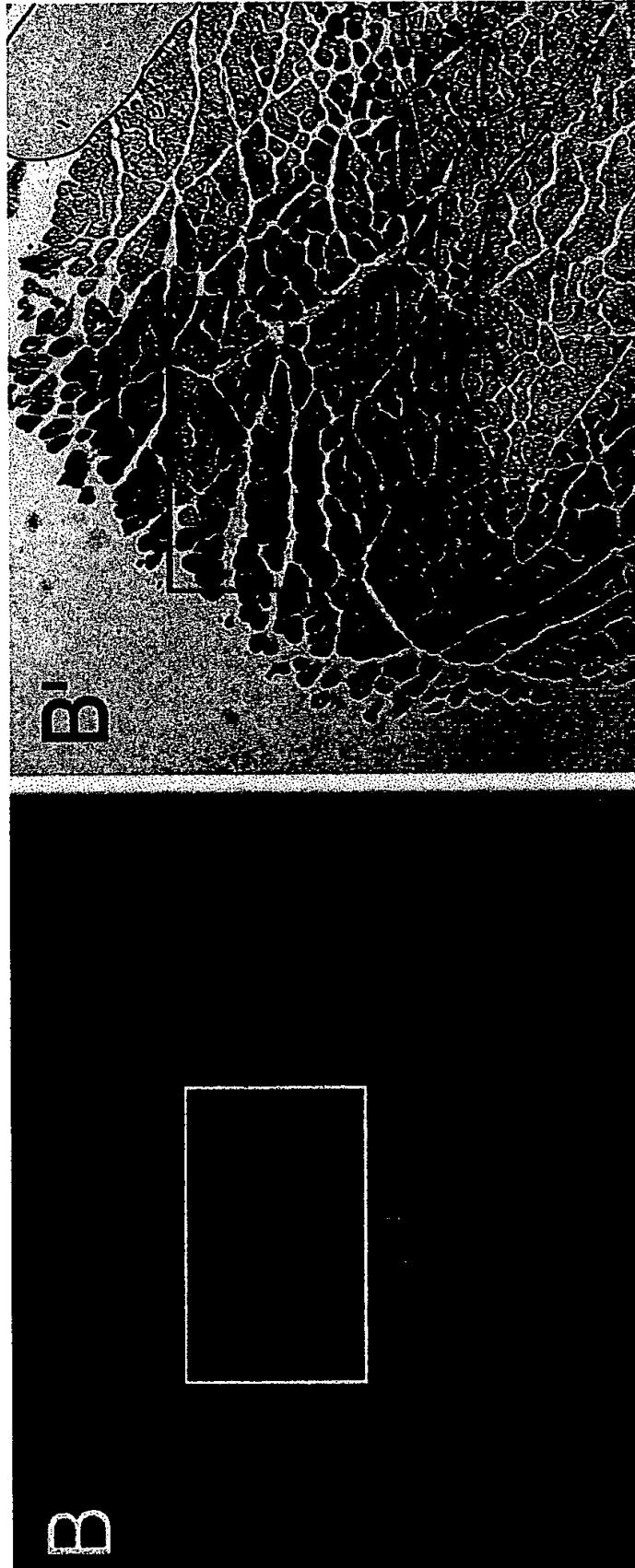


FIG. 15B

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/276,625

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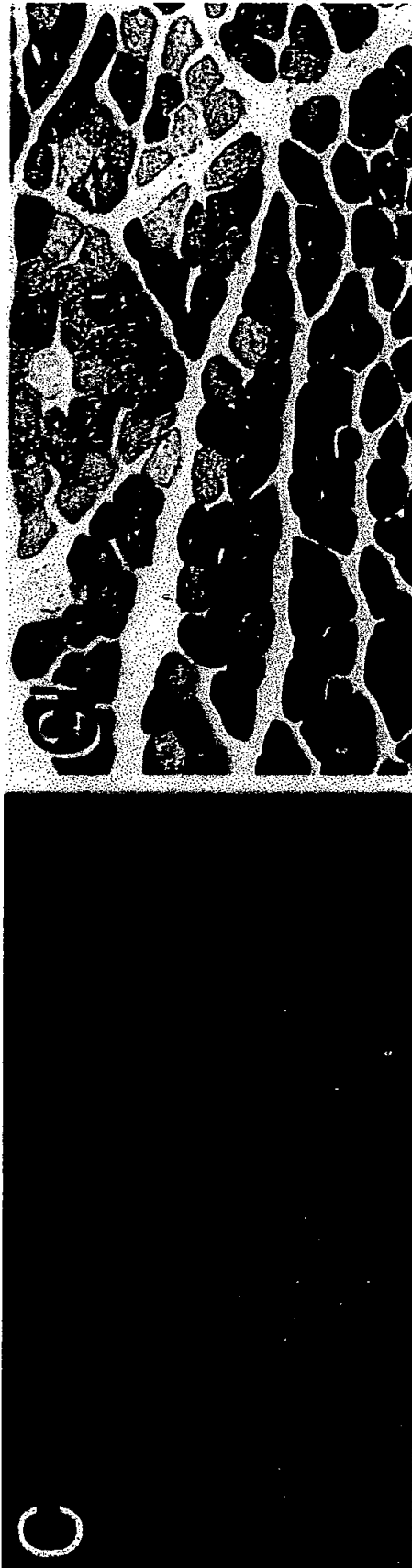


FIG. 15C

TITLE: ADENO-ASSOCIATED VIRUS VECTORS
INVENTORS NAME: John F. Engelhardt et al.
SERIAL NO.: 09/276,625

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FIG. 15D

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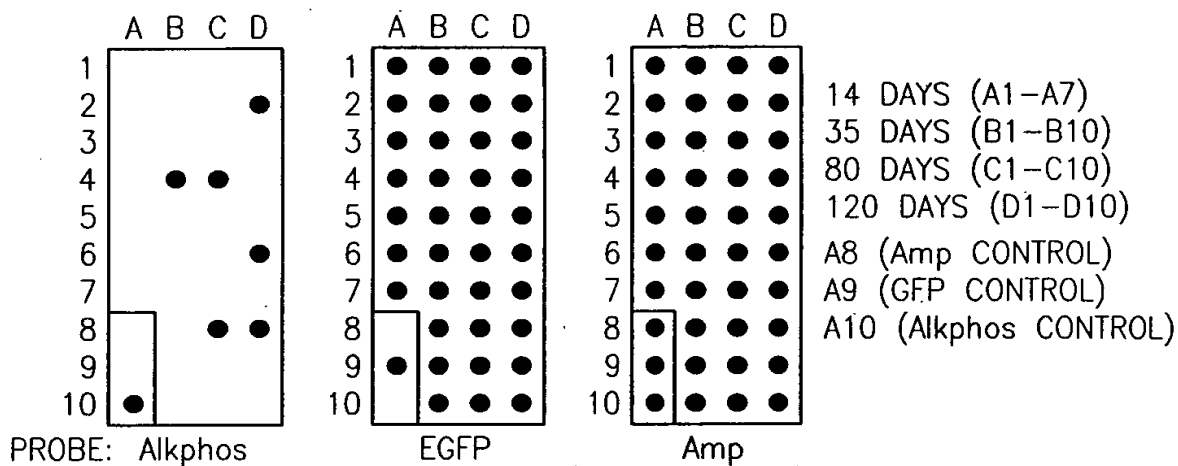


FIG. 16A

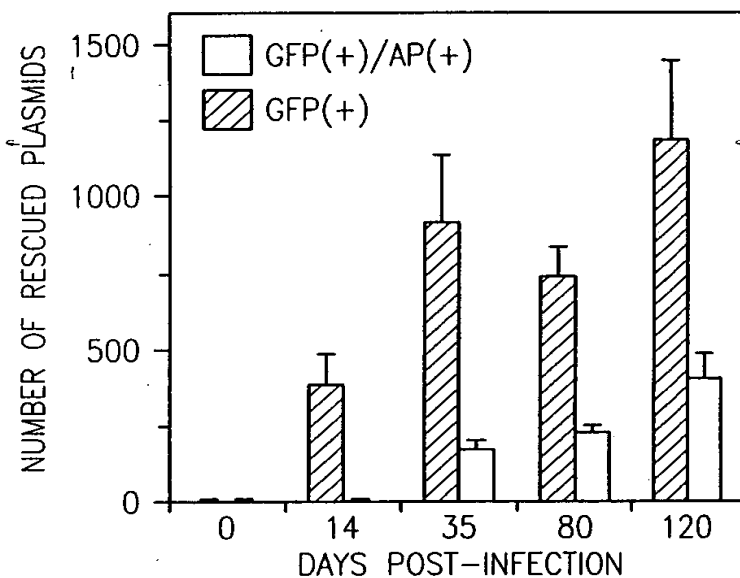


FIG. 16B

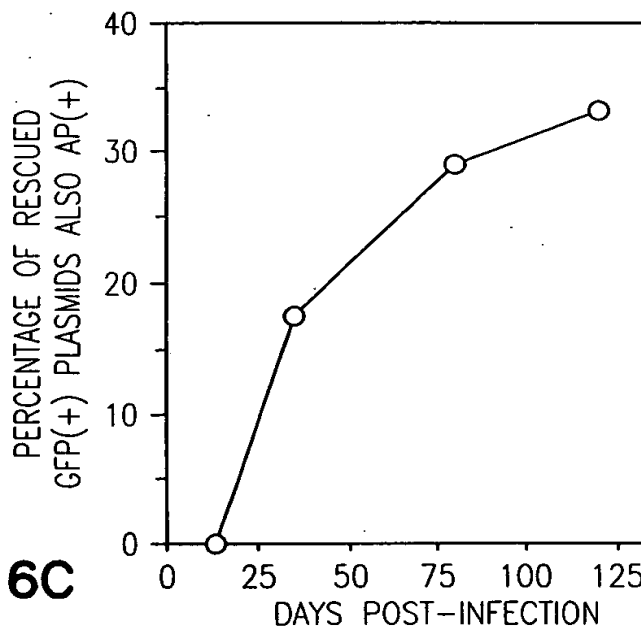


FIG. 16C

FIG. 17A

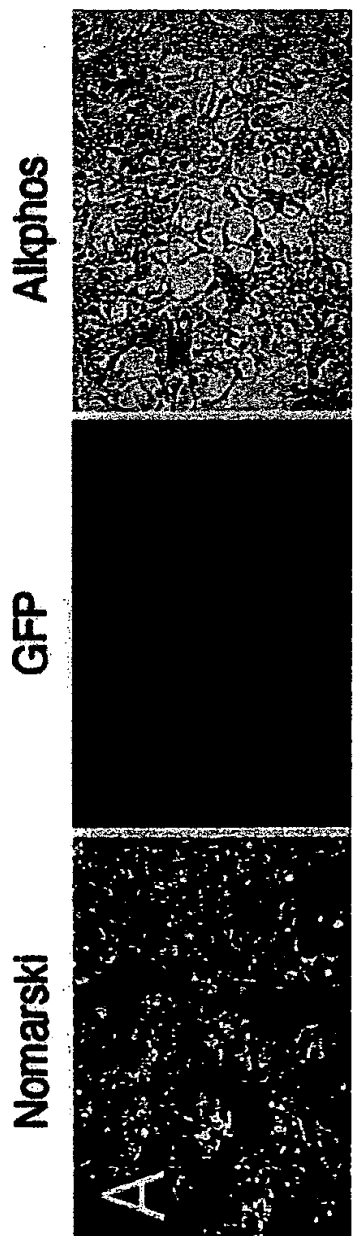


FIG. 17B



FIG. 17C



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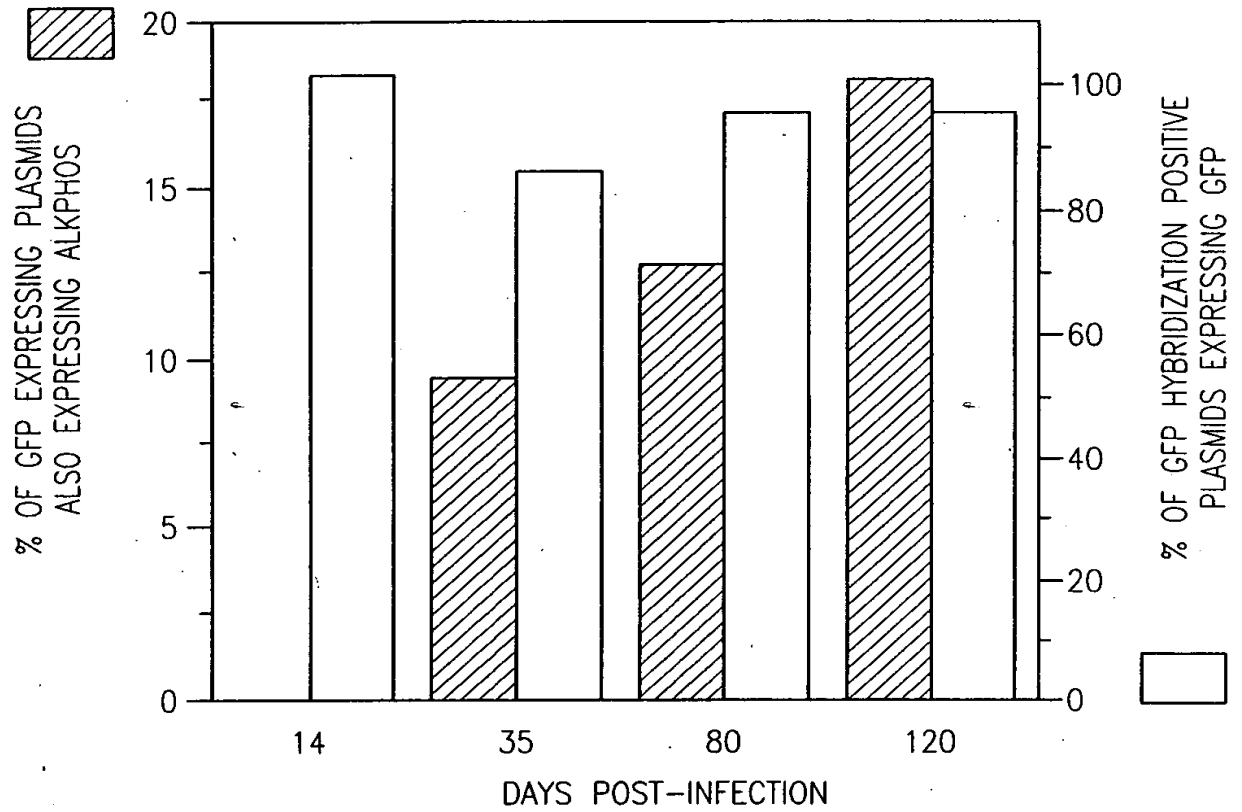


FIG. 17D

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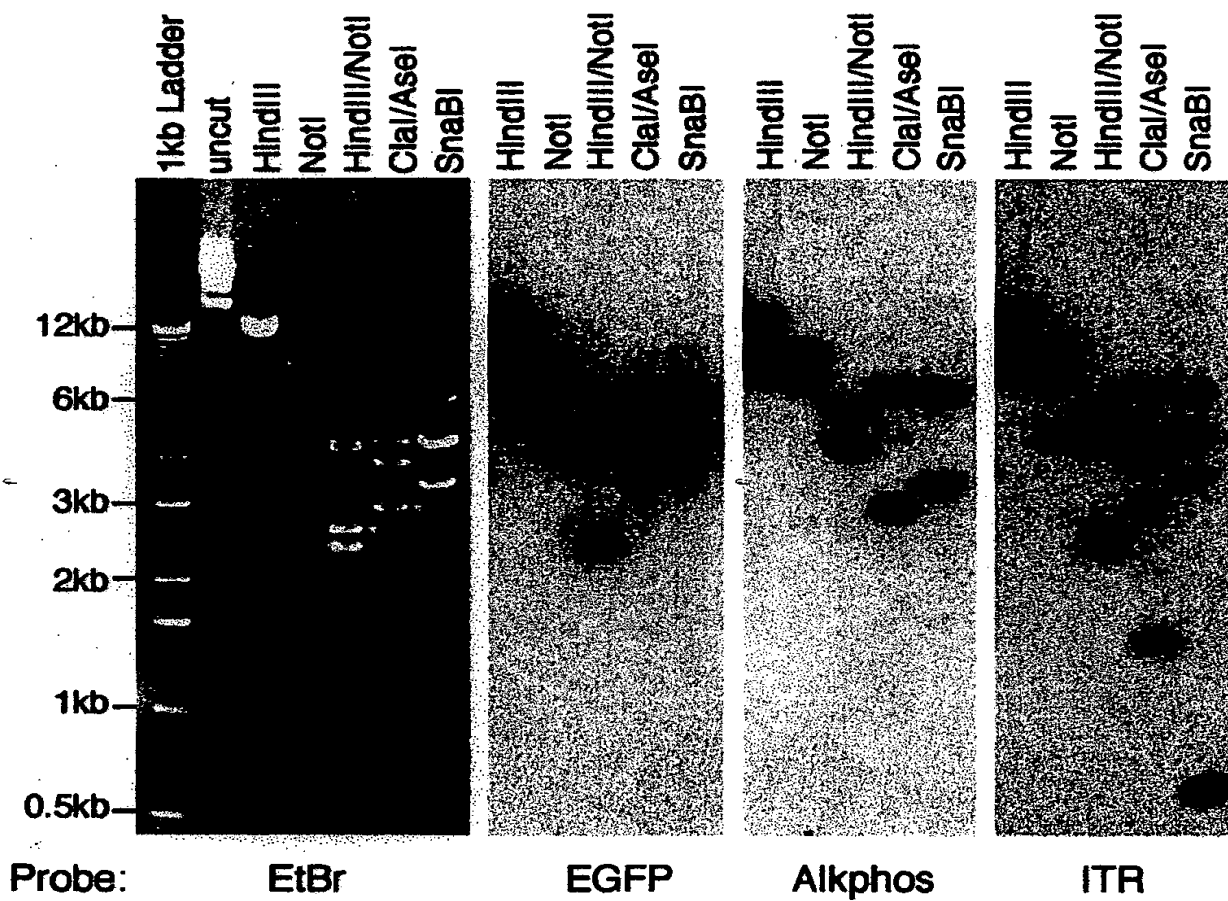
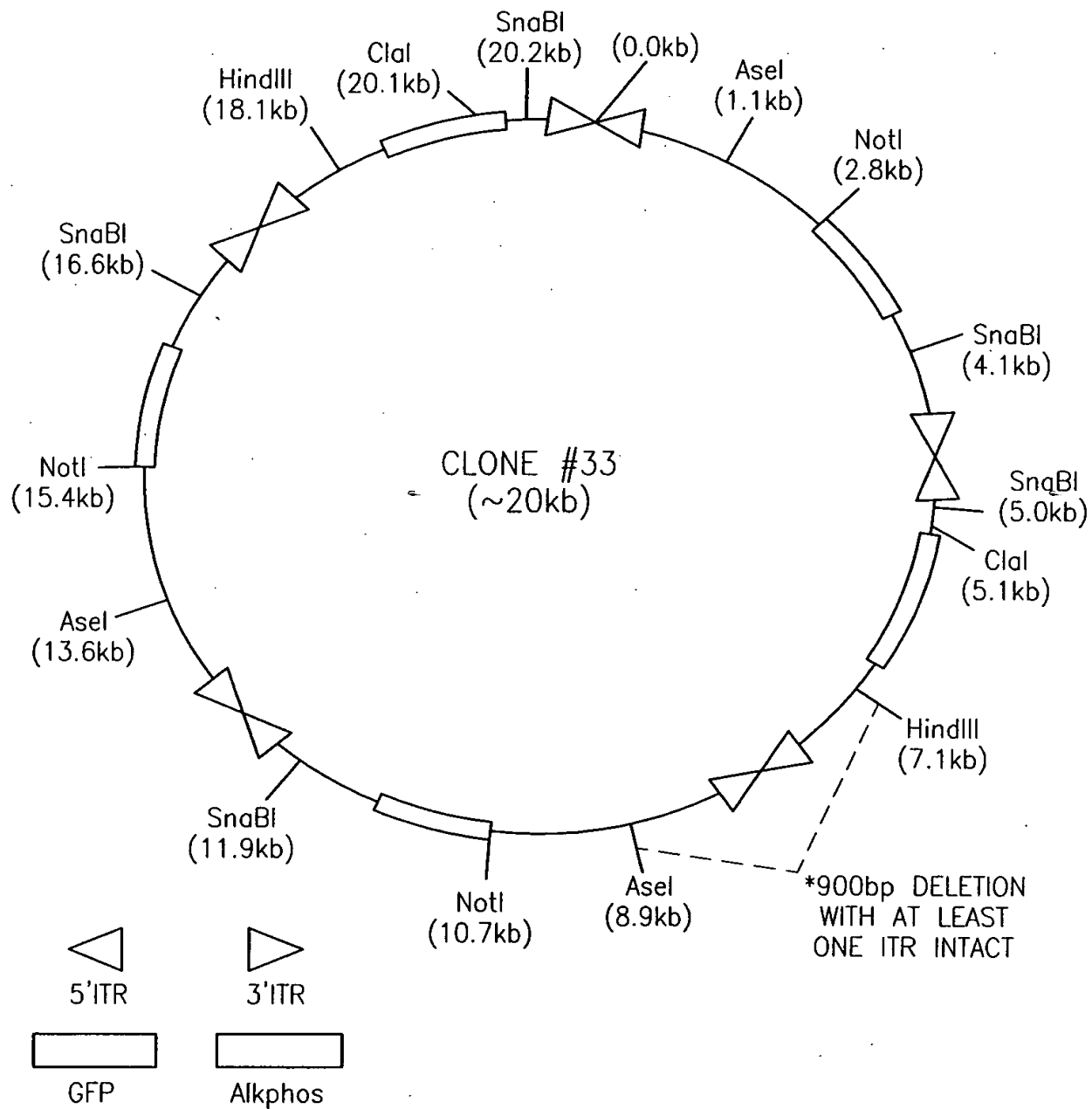


FIG. 18A

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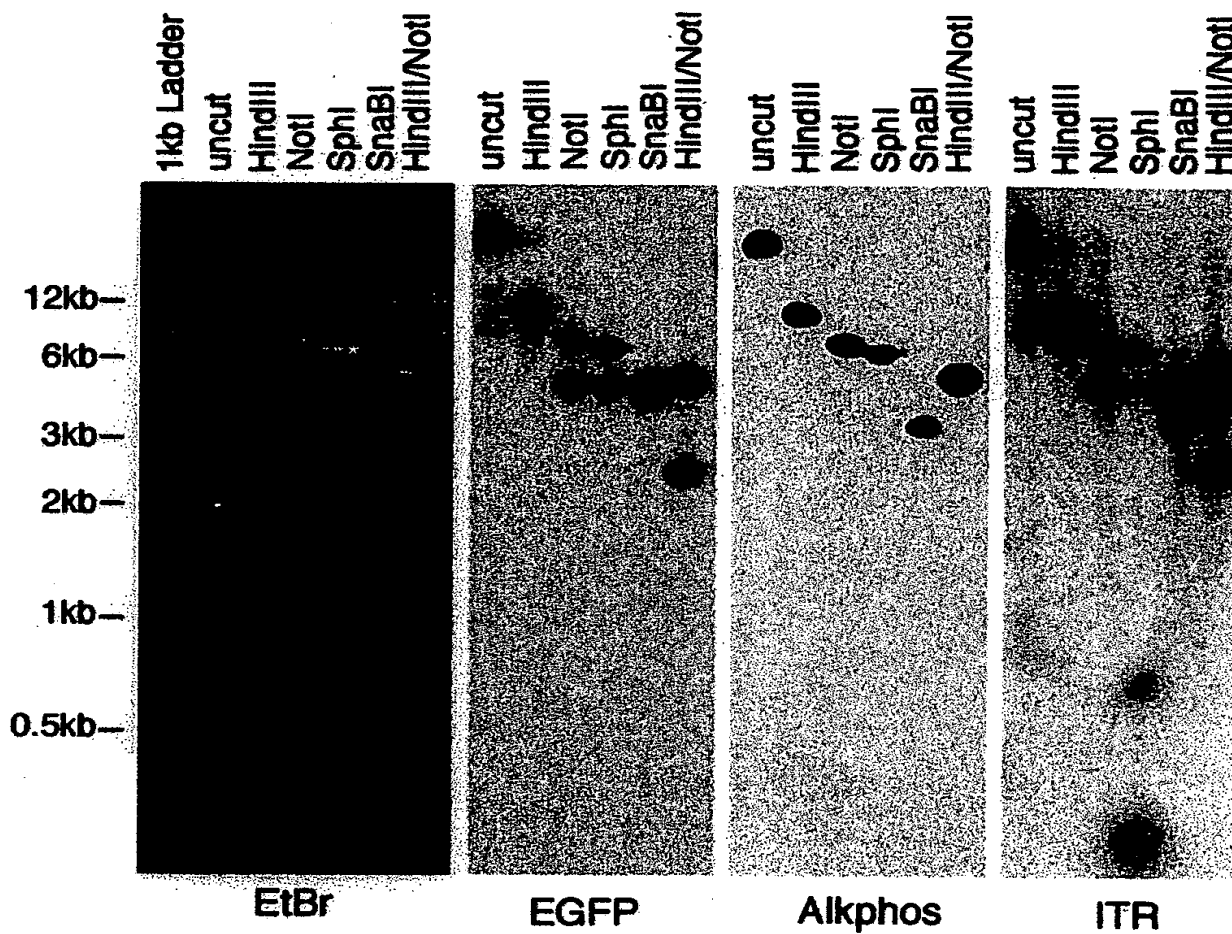


FIG. 18C

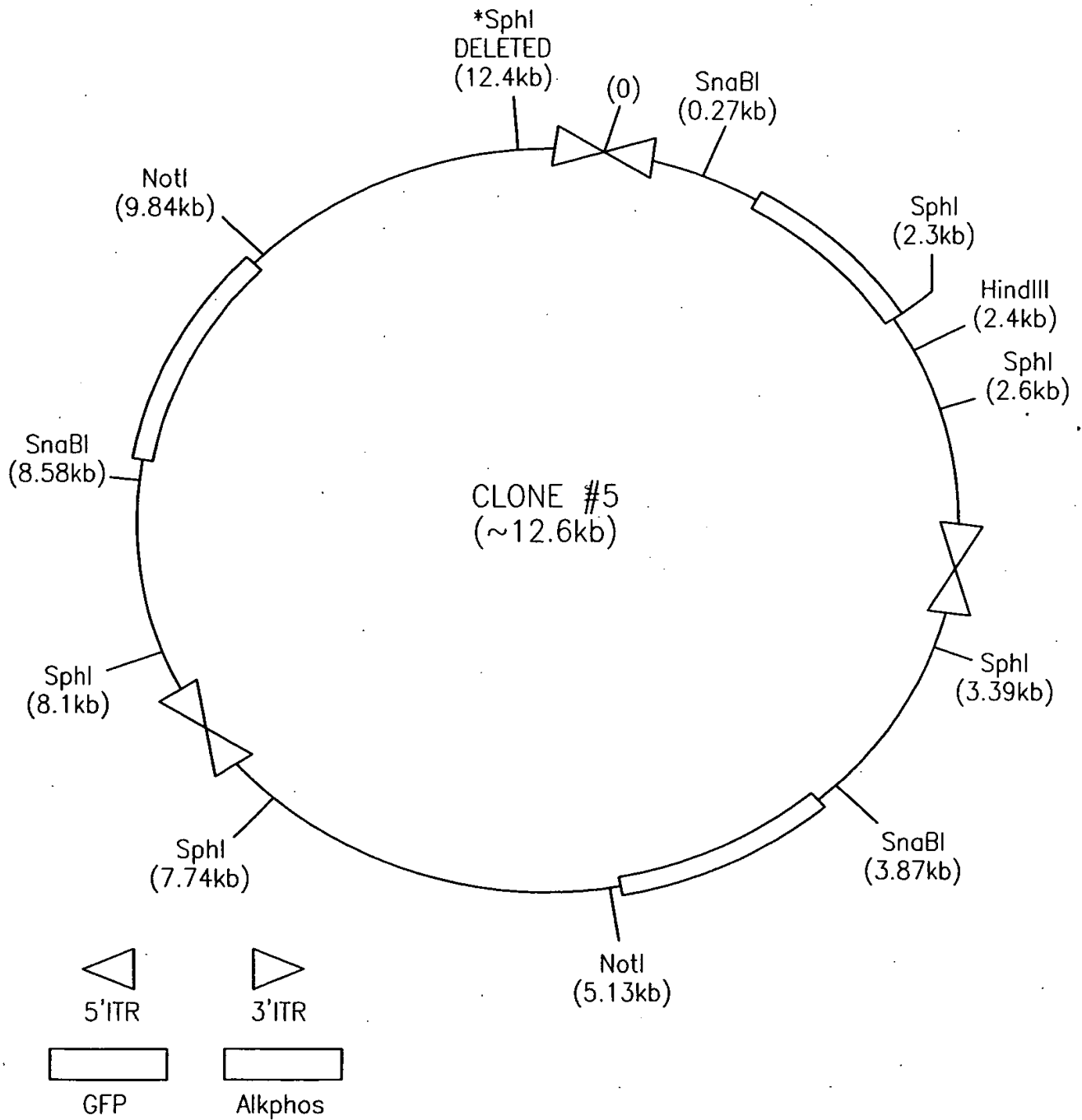


FIG. 18D

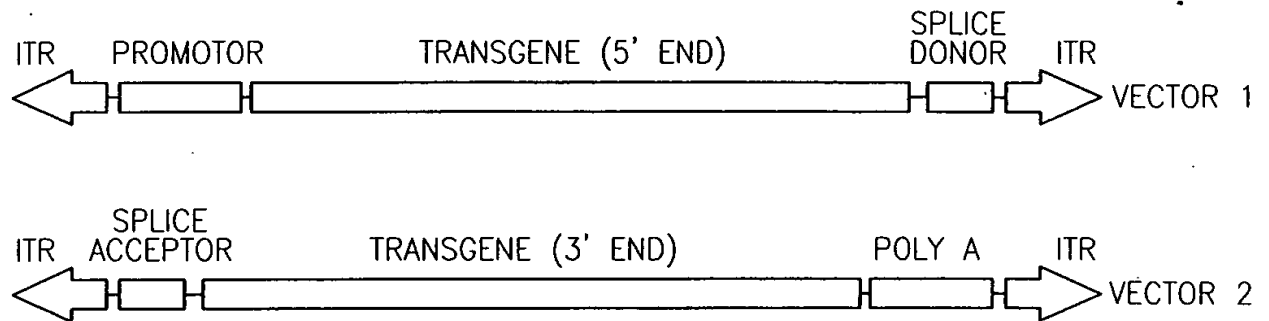


FIG. 19A

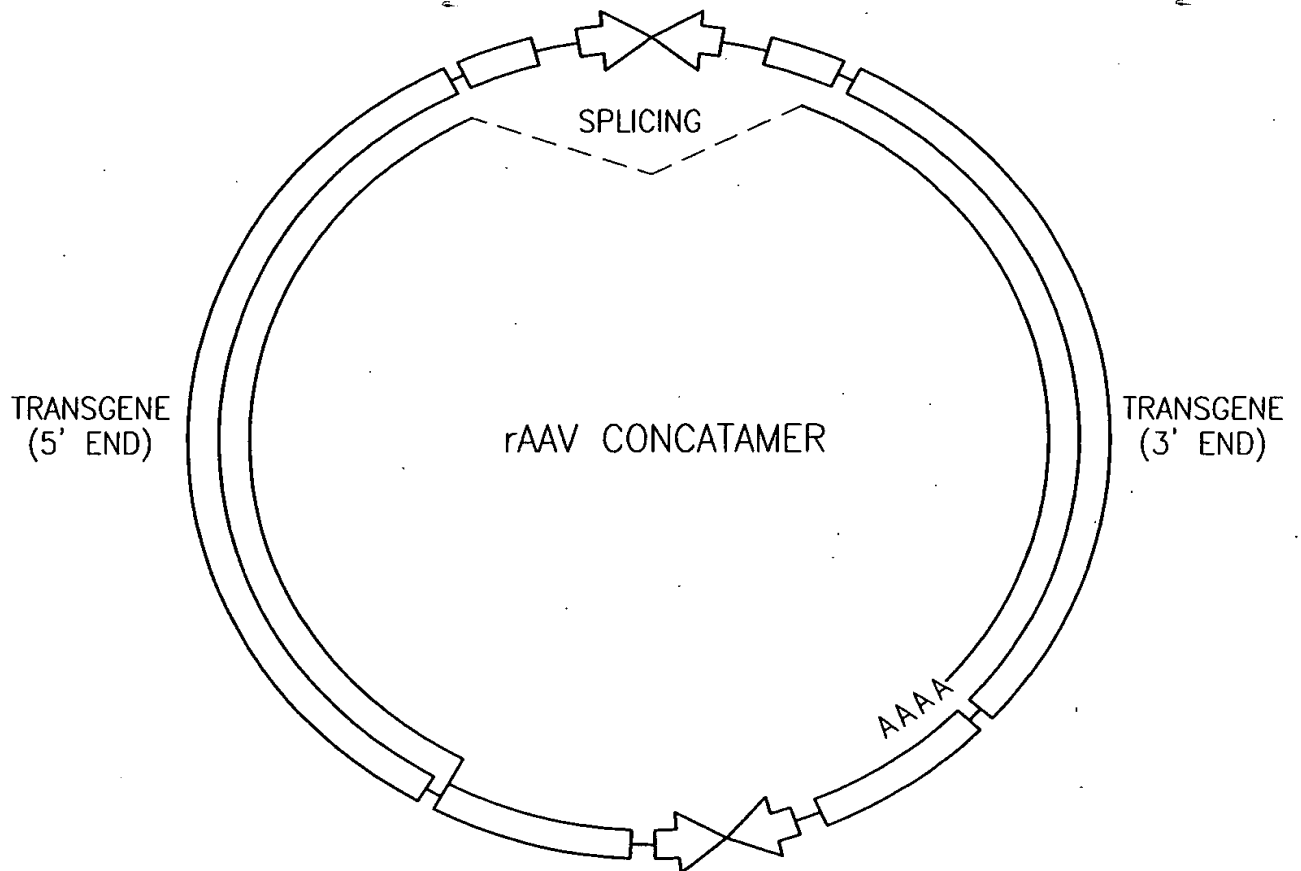


FIG. 19B